THE
AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

Vol. VI. **BALTIMORE, OCTOBER, 1850.** **No. 4.**

WORK FOR THE MONTH.

OCTOBER.

It may be well before we commence the detail of the work peculiar to the month, to remind our readers that the great FAIR AND EXHIBITION of the MARYLAND STATE AGRICULTURAL SOCIETY, *will be held at* BALTIMORE ON THE 23D, 24TH, AND 25TH DAYS OF THIS MONTH, and that every arrangement has been made to render it one of the most imposing exhibitions of the season.

It is expected that the members from the several States, who are in connection with the association, will not only give their own personal attendance, but cause to be brought for competition the products of their *fields*, their *orchards*, their *gardens*, and their *dairies*.

It is hoped that no one will consider that there will be better products than his own at the fair, and, in consequence omit to bring them; but arriving at that safer conclusion, that his own is *best*, bring them with him, and generously leave it to the judges to determine who is entitled to the palm of victory. Struggles of this kind are ennobling and salutary; they awaken feelings of emulation; excite ambition of the most laudable character, and diffuse a spirit which leaves the broad mark of melioration throughout entire districts of country.

It is desired that every farmer, and every planter, who may have superior *Horses*, *Mules*, *Oxen*, *Cows*, *Sheep*, *Swine*, *Poultry*, will have them on the ground; that each member will vie with the other, in having the honor of having most largely contributed to the exhibition, and of having what he may bring, *in place*, *early*.

While we thus appeal to the members, to inspirit them with the desire to win for their respective neighborhoods and States, the meed of praise, for the best and largest display upon the ground, we must be permitted to express the hope, also, that the productions of their *wives* and *daughters* will be rich in all that appertains to those departments of the homestead over which it is their peculiar province to preside, as there is nothing which more wins upon the admiration and delight of enlightened audiences, upon such occasions, than those evidences of woman's skill, taste and cunning, which are to be found in the embellishments of embroidery—the more utile elaborations intended for the domestic use of the household—the products of the dairy—the poultry yard, and the garden.

Passing from those immediately attached to the farmers' homesteads, we would appeal to the MECHANICS AND AGRICULTURAL IMPLEMENT MAKERS OF THE UNION, and in so doing, express the hope that their departments will be so full and ample, as to reflect credit alike upon the association and upon themselves. As the *Fair* will be numerously attended from many of the States, a fine opportunity will be presented of introducing to general notice those notable contrivances which the inventive genius of the American mechanic and artisan have moulded into form, for the saving of human labor, and which have earned for them a renown as widespread as well deserved.

Having thus briefly noticed the approaching *Agricultural Fair*, we turn to the work

ON THE FARM.

Wheat.—As our remarks upon seeding Wheat last month, were full, we shall not detain our readers now, further than to refer them to what we then said upon the subject, and to utter the hope, that all may have already got their wheat in. If, however, owing to any of those casualties which beset the pathway of the agriculturist, there be any with fields unsown, we would admonish them, to make double quick work, and get them sown without further delay, and to put it in well.

Rye.—This grain should have been seeded in August, but may still be sown, if done in the beginning of the month.

Threshing out Grain.—We beg to renew our injunctions of last month, to get through with this labor at as early a period as possible. The considerations which we then urged, are always safe to act upon; no man has more necessity than an agriculturist to be ready for the changes of the market—no one is more liable to have his interests sported with by the agents of speculation—none where factitious circumstances, often coined for the occasion, are more likely to tax the profits due to his honest labors and toils. Thus liable to the *tricks* and *witticisms* of trade, it should ever be the business of the grain grower, to get out his crop at his earliest convenience, in order that he may be able to seize upon the propitious period for selling it, as he may rest assured that he can only protect himself from such impositions by unceasing vigilance.

Although we have watched the indications of the wheat crop with much solicitude—with much care and attention, we have, as yet, been unable to de

cide, with any degree of certainty, whether the *aggregate* crop of the whole country has been a *large one*, an *average one*, or whether it is *below* the latter standard, though from present evidences it would appear to have been a large one.

As may well be conceived, amidst so many conflicting interests, stretching over so wide a range of country, as is that now devoted to wheat culture, representations are influenced by divers considerations, and often by those the most mercenary and disreputable. The *speculator*, ever wide awake to whatever may put money in *his own* pocket, that ought to go into that of the *producer*, is not overscrupulous to magnify the products *on paper*, while the latter, influenced by a too confiding spirit, thinks but little about the over-reaching devices that are resorted to to despoil him of the fruits of his industry.

But, be the present year's product what it may, we think the safest plan for the farmer is, to get his grain out early, so as to have it ready for market; and as it is customary *for the* WIRES *of the telegraph to be broken on certain emergencies*, he should look out sharp, and see that his grain is not curtailed of its value upon such occasions. Whenever a farmer hears *that the wires of the telegraph line are broken, or out of order, at the time of the arrival of a steamer*, he should be SUSPICIOUS that a trick is intended, and consequently hold on, as he may be sure that the hand of a speculator is mixed up in the affair.

Foreign Corn Market.—It has been gratifying to us, in looking at the commercial news as it has arrived from time to time from Europe, to find that Indian Corn and Meal had most generally held their own in England, as to price, while the demand has been gradually on the increase. This we predicted, four years ago, would be the case; for we then knew, that, so soon as the intrinsic value of this grain became known, and properly appreciated, it must find favor with the stock feeders of that beef consuming country, as its fattening principles were so superior to most other grains, as to render it a decided favorite for such purpose.

We have seen intimations thrown out in the British journals of late, that the "CHALKY" flavor of corn-meal renders it unpopular for bread; but this *prejudice* will be overcome when they learn how to make it into *pone* and *johnny-cake*, with the skill of Maryland and Virginia cooks. We say *prejudice*, as it can be nothing else, in a country where the *oaten* cake is eaten by millions, a description of bread no more to be compared with one made from corn-meal, than a pettifogger is with a profound lawyer, and God knows there is an immeasurable space between the former and the latter.

As our Corn has about it not only the true elements for fattening stock, but for making good wholesome, sweet, nutritious bread, it must, and will continue to grow in favor in England, Ireland, and Scotland; and, as a consequence, expand its demand in those quarters.

Swine.—Prepare your pens for the reception of the hogs you may intend to fatten, in order that, so soon as the *masts* of the woods may have been consumed, they may be ready for them. Each pen should have a *rubbing-post;* its bottom should be covered with several inches, in depth, of marsh mud, or other rough material, to absorb the liquid evacuations of the hogs, the which, as it may become saturated, should, from time to time, be cleaned out and replaced by fresh materials. When removed, it should be formed into compost heaps, and mixed with plaster, or charcoal, to economise the ammonia. Hogs are most excellent manufacturers of manure; but, to render them efficient, you must furnish them with the rough materials to work with. Each hog in a pen, is capable, during the fattening season, of converting two loads of such materials into good manure. No animal voids more urine than the hog, and there are none voiding it of so rich a quality; it abounds in urea, albumen, common salt, muriate of potash, gypsum, chalk, and glauber's salts, while the solid evacuations, are supposed to be as rich, in nutritive elements, as are those of man. Substances so enriching, should then, most certainly be economised—should be made to perform their rightful offices in the improvement of the soil—in the nurture, elaboration, and perfection of the products of the earth.

All hogs when first taken up for fattening, should receive two or three doses of flour of sulphur, and as many of Copperas, in messes of bran or meal, say a table spoonful, each dose, at intervals of two days apart. Their food for the first two or three weeks should be pumpkins, apples and roots, or other vegetables, which should be boiled or steamed, made into mashes with bran or meal, the latter being increased from day to day, so that when they come to have corn or meal altogether, the change may not be injuriously felt by them.

We hardly know, whether it would be prudent for us to remind our readers, that cooked corn meal, will go farther by 30 per cent., in fattening hogs, than will the unground and uncooked whole grain, —and that a saving of 15 or 20 per cent. may be effected by boiling the whole corn. However, let it be prudent or otherwise, as we have told them so, we will take the responsibility of asking them, to try the experiment, and of personally superintending it. Many a barrel of corn that had been given out for fattening hogs, for want of personal supervision, has found its way to a neighboring grog-shop.

Charcoal, Ashes, Rotten Wood, and *Salt*, should at all times during the periods of fattening, be accessible to the hogs.

Cattle-yards.—Have as many loads of rough materials hauled as will cover your cattle yards 12 inches in depth; fashion these *basin-shaped*, so as to prevent the escape of the urine. Occasionally spread plaster over your yards, after the cattle are confined therein; adding as you can, other rough materials from time to time; and our word for it, by next spring, all such materials will have been made into the most enriching fertilizers which you could desire.

Materials for Manure.—You should gather all the substances on your farm that can be made into manure and carefully compost them, so as to be converted into mould, which, permit us to assure you, is to the elements of fertility, what the blood is to the human system, the life-spring and source of vitality. Without there be *mould* in the soil, or something identical in constitution, no soil can be fertile notwithstanding all the inorganic elements were therein present:—*without the nutritive principle, infertility is inevitable. Mould or animal and vegetable matters, in a state of decay*, is as indispensable to a good soil, as flesh is in the *concocting of a good pot of soup.*

Upon this subject professor *Dana*, who we look upon as one of the genuine lights of Agricultural science, says:—

"*Mould* is truly manure. If the mould of soil were separated from the earthy portions of soil, it would deprive that soil of the power of growing crops. Here, then, we come to a broad distinction between the soil and manure. The *soil* is the earth on which plants grow,—the *mould* is the *manure* of that soil. The soil is the earthy,—the mould, that is, the carbon and salts, together with the elements of water, are the vegetable part of arable land."

We repeat:—*The making and preserving of dung heaps should be the first object—the first duty of every farmer*, as without putrescent manures, land cannot be preserved in a state of fertility.

Pumpkins.—It will be well to have your pumpkins gathered before they become injured by the frost. As to the *time* of so doing, your own good judgment must determine. Have them carefully handled in pulling and hauling, so as to prevent their being bruised, and stow them away in some cool place. In feeding them out to your hogs and milch cows, you will increase their value as food, by having them *cooked*. For hogs, especially, is cooking necessary, as it prevents their purging.

Roots of all kinds, should be harvested and put away, before being injured by the frost.

Time of putting up hogs to fatten.—The precise time when this is to be done, will of course depend upon your supply of mast, to sustain them in a thriving condition in the woods. All we wish to impress upon your mind, is this:—hogs fatten much better in weather moderately warm, than they do in cold; and for this reason; that in cold weather, more of the food is required to keep up the heat of their bodies, so that all abstracted in that way is a tax upon flesh and fat.

Orchard Trees.—Examine these, cut off all *dead* limbs into the sound wood, make a smooth surface to the wound, and paint it with a mixture made of equal parts of beeswax, rosin, and tar: then brush the bark of the tree with a hard brush, and paint with a mixture of soft soap, salt, and sulphur, as prescribed last month. If the trees are covered with moss or ross, they should be scraped with an iron scraper, before the mixture is put on.

If not recently manured, or cultivated with a manured crop, you should treat your orchard to a dressing this fall, such as we advised for young trees last month. Unfair fruit, and unproductive trees, are the natural results of impoverished soils. A half fed infant will be puny and diminutive, so will an apple:—neither can be vigorously grown, without pabulous food.

Planting a Young Orchard.—Our remarks of last month upon this subject, were too full to need anything this: but we will say that every man who owns a farm, owes it to himself, to his posterity, to society, to have a good orchard of choice fruits. If he is too far from market to sell his fruit, he can use them in feeding his stock. *Cooked* apples, mixed with meal, will fatten hogs as well as corn; cooked apples mixed with meal and chopt straw, forms, with water, one of the best slops that ever was given to a milch cow to encourage the secretion of milk: a mash formed of a peck of cooked apples, ½ gallon of oats, or chop, and a peck of cut hay or straw, makes a sustaining meal for a trooper's or ploughman's horse—it acts as a very gentle aperient, tends to loosen the hide, and lubricates the hair, gives tone and energy to the muscular secretions, and encourages a healthful elaboration of fat:—and above all else, good apples, whether cooked, or uncooked, are among the greatest delicacies, the most grateful, healthful, luxuries of the table. Therefore, if you have no orchard, plant one, and thereby fulfil the duties required of you, by your God and country.

Drainage.—We repeat our advice of last month, to drain your *wet* lands; it is called for by your best interests. For a view of its benefits, read an article in this number headed "*Importance and benefits of draining lands.*"

Milch Cows.—In addition to the scanty fare of the pastures, milch cows should receive generous messes of succulent food, and hay at night,—and if you have not already provided warm stabling for their winter accommodation, do so without delay.

Young Stock should be provided with additional food of nights, as it is important to bring them into winter quarters in good condition,—equally so is it, to keep them so.

Working animals of all kinds should be treated well.

Buckwheat.—Cut your buckwheat before it is touched by the frost. When about half the grain is ripe on the heads, is a safe time for harvesting. After threshing, save the straw for your cattle.

Corn-stalks, properly cured, cut into half inch pieces, and steamed, make excellent provender for cattle, and when mixed with bran or meal, make a good mess for milch cows.

Selling Corn.—Don't sell your corn in the ears; but shell it. The cobs, when ground into meal, make a nourishing food for milch cows and other cattle.

Fall Ploughing.—Stiff clay lands intended for fall cultivation, are always improved by fall and winter ploughing; provided they are not ploughed when either *wet*, or too dry. If they need liming, lime, or marl, could not well be applied at a better time than just after they are ploughed. When applied, it should be harrowed in: such an application will make the lime or marl, tell in next year's crop. *Fences.*—Examine and repair these.

Out-buildings.—If not already done, these should be cleaned out, and white-washed.

Liming of Lands.—From 20 to 25 bushels of lime per acre, is as much as should be put on poor lands at one time—from 40 to 50 on lands in good heart; but on strong lands well charged with vegetable matter, 100 bushels may be advantageously put on. Twice these quantities of marl may be applied, very advantageously.

If we were asked which kind of lime we would prefer? Our reply would be, that made from oyster shells: we taught this doctrine many years ago, when it was almost a heresy to do so; but as we are in the habit of saying what we know to be true, we left the consequence of our opinion to take care of itself, and we are pleased to find, that public sentiment has veered round, pretty considerably, to our way of thinking. There was a time too, when *magnesian lime*, was looked upon with holy horror, but we repudiated the idea, and that now is assuming its proper position. *Gas-house lime*, we started into public notice, having experimented with it 14 years ago, and found it good; and that too, is being utilized, as everything ought to be, that can feed a plant, fertilize the earth, or contribute to the necessities and comforts of man or beast.

Fairfax (Va.) Co. Agricultural Exhibition.—The Cattle Show will be held at Fairfax C. H. on the 30th and 31st. Oct.

ESSAYS
ON
Various Subjects of Practical Farming.

BY EDMUND RUFFIN, OF VA.

ON DRAINING.

[*Continued from page* 95.]

II. DRAINAGE OF SPRING OR UNDER-WATER—AND BY MEANS OF COVERED DITCHES.

When the water injurious to land proceeds from springs, the evil is the most difficult to understand and to remedy. In the ordinary farming operations of this country, the remedy is seldom attempted otherwise than by the very insufficient means of open ditches. These can seldom be sunk deep enough (in the proper places) to intercept all the sources of under-water; and even if deep enough at first, they cannot remain so long.

To judge properly of means for the remedy, we must first learn the nature and cause of the disease. For this purpose it is necessary to examine into the sources and the effects of under-water, and thence seek the means for its effectual removal.

The earth lying below the surface-soil is usually found in separate beds of very different textures, lying one above the other. Thus, a sandy soil, open and pervious to the filtration of water, and its sub-soil still more sandy, at the depth of either a few inches or many feet, usually changes, at a precise plane of division, to a close clay, through which little or no water can percolate. This underlying clay bed may be 10 or 20 feet thick; and then below it may be found another and thick bed of pervious sand. In other regions and higher lands, these parallel beds of earth are usually much inclined. In our tide-water region, where the lower beds are manifestly the result of sedimentary deposition, on the bottom and beneath the waters of a former sea, the beds are but slightly inclined, and indeed are not far from being horizontal. There is however a very general slight dip, and towards the east. This different degree of inclination, and also differences of thickness and of texture of the alternating beds, require important differences in the plans for drainage. And, as before intimated, these differences of our circumstances may be the reason why directions given by European authors for under-draining would certainly lead to failure, if followed here, without using additional precautions.

Wherever rain falls on the earth in excess, if the surface-soil (or the sub-soil) is an impervious clay, the excess of water flows off, along the course of descent of the surface to lower land, if such descent exists. If the surface of the land is so nearly level as not to permit such discharge, the water remains in ponds, or shallow pools, until evaporated by the sun and wind. In either of these cases, no springs are supplied, and there is no call for any other than surface-draining; and that may be mostly if not entirely executed by the use of the plough, and by the plan of bedding and water-furrowing the land, proper for tillage as well as for drainage.

But if the upper bed is of sand, or otherwise pervious to the filtration of water, the excess of rain sinks therein, and filtrates through the upper bed, until it is all absorbed, and so held by the earth. But if there is too great an excess of water to be so held by the absorbing capacity of the sandy bed, the surplus continues to sink until reaching the impervious clay bed below; whether that may be at 6 inches or 60 feet below the surface of the soil. If this impervious bed has the least inclination, the water presses onward in the direction of the descent. New supplies from rains continue to be added to the quantity of water in the earth, and to its pressure downward and laterally. Finally, at some place more or less distant from the sources of supply, and on a hill-side or low slope, the water-bearing clay bed "crops out;" and there the water, which had oozed along upon the upper surface of the clay, also reaches the surface of the lower land, and comes out in springs, or perhaps in a long line of slowly oozing springs. This is the simplest and most general manner of the formation of springs.

In this representation of a perpendicular section of such strata, it is obvious to the eye that the excess of water falling upon the table land and sinking through the upper sandy and pervious beds, (a and *S*,) must be stopped by and will pass off slowly (by filtration through the sand,) on the upper sur-

Fig. 2.

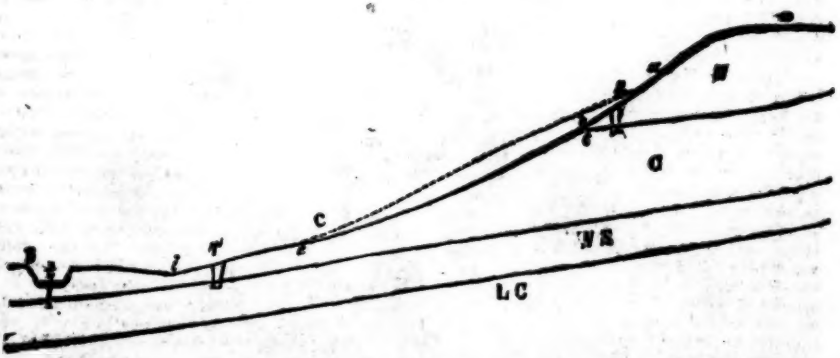


Fig. 2. *Perpendicular section (or profile) of strata, and view of springs and their drainage.*

a, a, a, Sandy (or pervious) surface-soil of table land.

S, Sandy sub-soil and lower earth—dry except at lower part, next to

C, Clay bed, impervious and water-bearing.

W S, Wet sand bed, glutted with water in wet seasons—less so, or even dry at top in some places, in dry seasons.

L C, Lower clay bed, impervious to the water of the sand above.

l l, Surface of alluvial bottom, drained by stream-ditch, *d*.

face of the clay bed below, (*C*,) along the course of its dip; and when reaching the surface of the lower land, at *b*, will there burst out in springs. A ditch cut in the sand above, at *d*, and sunk a few inches into the clay, will cut off all the line of such springs. But this ditch must be covered, and have the requisites of covered drains, (in depth, fall, &c.) to serve its designed object. No open ditch could be kept acting in such a situation, if on cultivated ground, or exposed to rain-floods, washing and bringing earth from the higher land.

Before the sinking of this ditch, (*d*,) the spring water would have naturally oozed or flowed over the adjacent surface-soil, lower down the slope, which being of impervious clay, would have permitted none of the water to escape by sinking; and an extent of surface, proportioned to the supply and retention of the spring-water, would have been kept wet. In such cases, the source of the feeble springs may not always be apparent, (especially among rank vegetation;) and a novice in draining, who did not fully understand the texture, succession and dip of the several beds of earth, would be very like to ditch at the lowest and wettest part of the ground, instead of cutting off the supply of water above its highest out-burst. By making this mistake, he would (at best) but collect and confine the injurious water in particular channels—and perhaps many would be required, and all serve but imperfectly to remove the evil. If proceeding correctly, and cutting off the supply of water above its visible source, its course would be entirely diverted, and none would reach the surface of the land below.

Such mistakes as these would not be apt to occur where there was as much slope of the surface, and of inclination of the beds, as appear in this figure. But both the slope and dip are here exaggerated much beyond what is usual, for the purpose of being made apparent. But such mistakes as to the sources of water, and consequent errors in attempts at drainage, are frequent in practice, where the usual natural features exist.

There is another and not uncommon cause of error, superadded to the foregoing. By the long continued washing of earth, by rain torrents, from the land lying higher, it is usual to find imposed on the lower slope of a hill-side, and perhaps the still lower flat ground adjacent, a recent layer of loose and porous earth. Such a deposit might cover over the original clayey surface, *c*, *c*, and part of the sandy surface above. This layer might be several feet in thickness—and cover the original surface to the height represented by the dotted line above *c*, *c*. This new deposit would be necessarily of loose open texture, often full of vegetable matter, admitting water freely, and holding it strongly. By the operation of this sponge-like power of absorption, the water might not be visible at or near its entrance; nor until after passing through, it slowly trickles from the lower side, and there presents apparent springs, which may be 100 yards distant, and 30 feet below the level of the true and original outbursts of the same water. Such a condition of circumstances, if in a cool climate, would make the commencing formation of a peat-bog, which would continually extend, in breadth and depth. But in our warmer and dryer climate, where decomposition proceeds too fast for the formation of peat in ordinary cases, there would be but a limited extent of rich and wet soil, so covered with rank growth, as to be almost hidden from examination. Cases approaching more or less to this description have served to mislead my operations as well as those of many other persons.

A variation from the case described above may be produced by the following different circumstances: Suppose the like succession of sandy and clay beds as exhibited in the higher parts of Fig. 2, but with a longer and in some parts a steeper slope, the newer deposit of earth (under the dotted line,) sandy and poor, and spread thickly, (3 feet or more in depth,) over the original clay slope of the hill-side. Into this thick layer of sandy earth, of various degrees of open texture, the spring water coming from the original out-burst (at *b*,) would sometimes sink, leaving the surface dry, and then come out again at different lower levels, either because finding the passage to the surface the most open, or being forced out by the soil being there shallow, or the surface slope being steeper. And the water after thus showing at the surface, and perhaps trickling over it for a short distance, would again sink in more open or deeper sand, to come out again at some other lower place. The irregular exposure and disappearance of water at various heights and distances, would present what is well known as an "oozy hill-side," and which is a puzzle to most young drainers. Indeed, so great appears the difficulty, that the draining is rarely attempted. Either the cultivation of the slope is abandoned, or is continued without regard to the want of draining, and therefore, of course, there is much labor for very little crop. If attempting to drain such ground, and not knowing the true source of the water, and the causes of its appearance and its absence in various places at different heights, the operator might suppose each show of water to be a separate and independent and original spring, requiring a separate cross-ditch for every different level. It is needless to show at length why all such ditches might fail to cut off all the veins of the filtrating water, (because not being sunk as low as the bottom of the pervious sand;) and even if not so failing when first dug, they would be filled with earth and rendered useless by the first washing rain. But if merely knowing the true and highest sources of the water, and the manner of the supply, it would be obvious to the drainer that the only and easy remedy would be the sinking the single covered ditch, (at *d*,) as before directed.

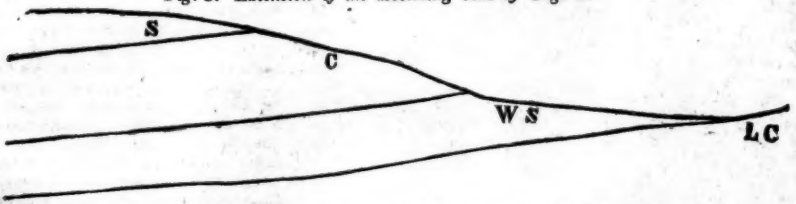
The foregoing descriptions and remarks apply to the most ordinary case of the formation of springs, and their flowing over and upon beds of impervious clay, more or less inclined. Another and not very rare cause of wetness from spring-water, is when it presses upward, instead of downward. Such cases present still greater difficulties, unless the causes of such supply of water are understood, and duly considered. The same cross-section, figured above, in the lower beds, presents such a case to the eye, and such as has required to be provided for in sundry of my recent drainage operations.

As stated before, the degree of dip is exaggerated in the figure much beyond the natural features usual in the tide-water region. But the principle is the same with even the slightest descent, and with a sufficient extension of such beds.

Suppose the extension of the table land, (of which but a small space appears in Fig. 2,) and the beds, far in the direction in which the beds ascend, (as in Fig. 3.) The upper sand-bed, *S*, is still the highest, it may be for one or more miles. But it thins out, and finally is reduced to nothing, as the

clay bed, *C*, reaches the surface, and forms the soil for a breadth proportioned to the thickness of the bed and its slight degree of dip. Next, this clay bed (*C*) also thins out, and the still lower sand-bed (*W S*,) forms the surface of the land, until in its turn thinning out and giving place to the lower clay (*L C*.) The broad belt of sandy soil and subsoil, formed by the bed *W S* at the surface, receives all the rain water falling directly thereon, and also whatever may flow thereto from the bordering impervious clay surfaces of both the beds *C*, and *L C*. All this supply of rain-water sinks into the sand-bed, *W S*, and filtrates down the descent, and is confined between the impervious clay beds both above and below. Thus confined, and receiviug new supplies with every considerable rain, the water fills completely the interstices of the sand in the lower descent of the bed *W S*, as seen in Fig. 2, and presses in every direction, upward as well as laterally and downward. This pressure is the greater in proportion to the quantity and weight of the water on the higher part of the bed *W S*, and to the obstructions to its discharge at the lowest level, wherever that may be. If then, this confined water, pressing in every direction, should, near its lower end, find an aperture through the upper clay bed (*C*, in Fig. 2,) it would rise perpendicularly to escape, as readily as if the vent and discharge were downward. This is according to a universal law which governs water, and which will probably be

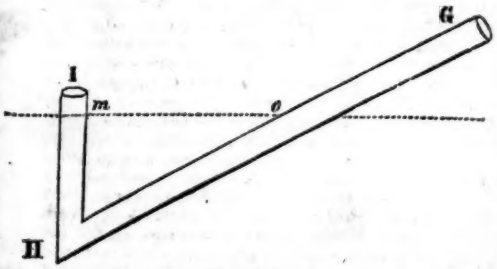
Fig. 3. Extension of the ascending beds of Fig. 2.



evident to every reader. But lest it should not be so, I will make the law and its operation clear by illustration.

If a bent tube, open at both ends, is placed as in the figure below, (Fig. 4,) and water is poured into the upper end of the inclined arm *G H*, it will rise in the perpendicular arm *H I*, to the same level, (as standing at *o* in the one and at *m* in the other.) And if a continual supply of water is poured into *G*, so as to keep its level always higher than the other end of the tube, *I*, then the water will rise in that arm and flow out at its upper end, as fast as it is supplied at the higher end and higher level, *G*.

Fig. 4.



This will serve to show the manner in which the glut of water in the sand-bed *W S*, (in Fig. 2,) may act to injure the soil of the clay bed (*C*) lying above —and also how to apply the proper remedy. It is also an illustration of the principle of vertical draining, (by boring,) the great discovery of the English farmer Elkington, for which he was granted by the British Parliament a reward of £1000. He is the only one of the many agriculturists who have benefitted mankind by their discoveries or improvements, to whom has been awarded either honor or reward, by their country or their government!

If, in the case under consideration, the upper clay bed *C* (Fig. 2) were continuous and perfectly impervious, the water in the lower sand-bed *W S* could nowhere escape upward, and therefore could do no harm to the soil. But wherever there are minute fissures in the upper clay, and which are apt to occur where the bed becomes thin, as at *i*, then more or less of hurtful moisture will escape by upward pressure, and rise by capillary attraction to the surface soil. This is supposing the fissures to be very small, and that the water glutting the sand-bed (*W S*,) has a sufficient discharge, though through a greatly obstructed passage, at some lower level of the descent of the bed. If no such lower discharge existed, the small fissures would be worn larger, or the clay ruptured, in a copious "boiling" (or vertical) spring. And if no natural fissure or rupture of the clay occurred, the like result would be produced by artificial boring through the upper clay stratum.

But more usually, the confined glut of water (in *W S*, Fig. 2,) is completely though slowly discharged at some outlet more or less distant, and at a lower level. Then the effects will be different. In such case, if at some higher point (as *i*,) the upper clay is thin and fissured, or if sandy soil and sub-soil, of several feet thick, there take the place of the clay, then probably no water will be found at or even near the surface, and most cultivators might think that no draining was there needed. The sandy soil thereabout would merely show more appearance of moisture after rain, and would be longer drying than the adjacent ground. If afterwards ploughed, the loosened soil would soon dry, because the capillary pores would be broken by the ploughing, and could bring up moisture no higher than they remained connected. Such soil may even suffer greatly by drought. Still, sub-aquatic grasses and weeds thrive well there, when the land is not under tillage; and grain crops produce badly, no matter how rich may be the soil. The remedy in such cases is to tap the surcharge of water confined in the sandy bed, *W S*, by a sufficiently deep drain, as at *r*, which drain should be discharged by another cut from it to the main stream-ditch (*t*,) or to the nearest sufficiently low outlet. A ditch so brought up from the place of its designed discharge, and

extended along the upper outline of the wet ground, will, in such situations, reach and take off a quantity of water. But it is obvious that such digging cannot reach much below the upper surface of the surcharged sand-beds, and of course no more water can be taken off than stood higher than the bottom of the drain. This however is usually sufficient to drain the surface-soil, and the sub-soil as low as the level of the bottom of the drains. Of course these drains should be covered. The loose sand into which they are sunk, and its extreme wetness, cause much caving of the ditches. This renders the construction of covered drains very troublesome, and their operation hazardous. But to maintain open ditches, under such circumstances, of sufficient depth for drainage, would be impossible. Therefore in this, as in other cases within my experience, there is not offered the choice between open and covered ditches. The land must be reclaimed by covered drains, or not at all.

The deep main ditch *t*, (Fig. 2,) which is the place of discharge for all the side and other smaller drains, is also the carrier of the stream flowing from higher and perhaps remote sources. If, in such circumstances as exhibited in the profile, a hole is bored in the bottom of the main ditch, through the impervious clay beneath, (*C*,) into the still lower sand-bed, (*W S*,) the water will sometimes ascend in a bold and permanent boiling spring. Such borings might even obviate the necessity for any such side-drains as were directed, (at *r*,) provided there were no fissures or breaks in the upper clay, allowing the water to escape by upward pressure. But where partial discharges exist naturally through fissures, or have been produced by previous injudicious and ineffectual ditching, though borings in the main ditch may help the drainage operations, they will scarcely supersede the necessity for some side and cross covered drains.

In the cases stated above, open ditches could not possibly serve for sufficient drainage. But even if the characters of the soil, and the lower beds, were such as to permit perfect drainage by either open or covered drains, I would still prefer the latter, wherever equally suitable, and where passing through cultivated land. The mere loss of labor and of crop on the margins of open spring ditches, where the teams and ploughs must turn, and by the rich margins growing up weeds and shrubs, requiring frequent cleaning—would, in one year, more than pay the greater cost of making covered drains. Many failures of these drains have indeed occurred to me, and will occur to all as ignorant and untaught beginners and pioneers as I have been. And some failures will be unavoidable to well-informed and experienced drainers, because of peculiar or novel difficulties of particular localities. Still, even in my own imperfect operations, I have found covered draining cheaper, and far more effectual than would have been open ditching for the same ground.

I might add to the number of the foregoing descriptions or illustrations of the drainage of underwater, by presenting other cases drawn from my own labors—generally successful, but a few of either partial or total failure. But perhaps more than enough space has been already occupied in stating examples. The general principles which have been laid down, if duly considered, would be enough to indicate the general course of procedure. But however correct may be the theory, and the general plans of operations, success in practice will rarely be attained except by careful attention to sundry essential requisites, and which if neglected to be observed and practised, will cause the utter failure of the most correct general plan for drainage. These causes of failure will be embraced in the next and concluding portion of this essay.

[To be continued.]

Communicated for the American Farmer.

IMPROVEMENT OF WORN-OUT LANDS BY SHEEP—MANAGEMENT OF SHEEP.

ELLENDALE, VA., August, 1850.

MY DEAR G.—Having got through with my harvest—a tolerably large one, in grain—and my hay making—a heavy, and, this season, very serious operation, in consequence of frequent showers falling on it just as it was ready for stacking—I have a little leisure to devote to my correspondents, and will endeavor to reply, as satisfactorily as I can, to the query contained in your last, "What would you do with an exhausted Maryland farm, of 500 acres—200 in wood and the residue open—but sadly out of repair, and the soil, naturally light, standing in need of restoration?"

It is difficult for me to say precisely what would be my course in this predicament, as, without more accurate knowledge than I possess of the character and capabilities of your soil, in the endless varieties afforded by your State, I would be at a loss, both as to the time and means required for and adapted to the accomplishment of restoration in this particular case. But I will imagine such a farm as I know, from former observation, to be common in Maryland, and describe the course of renovation I would pursue with it, as I think it quite probable that some, if not all of my suggestions, may be applicable to your property.

In the first place, then, presuming this property yields no income, and is yearly growing worse on your hands, I would give it, rent free, (if it does not suit you to undertake it yourself,) to a clever, industrious tenant, for three years, on condition that he should put on it as many sheep as it would carry, and devote its entire produce to their maintenance, binding him to increase their number in proportion to the augmentation of its means of supporting them. He should keep no other description of stock, nor sell anything in the shape of provender—not even a wisp of straw—but derive his income entirely from his sales of wool; of such wheat or rye as he raises for the straw, and to get his land into grass; of his wethers, when they have passed five years of age, and his old and refuse ewes, being bound to reserve his lambs to keep up his stock, and increase it, as he certainly will have occasion to do if he manages matters as he ought.

My Essay on Sheep Husbandry, published in the *American Farmer* of January last, will furnish ample instruction as to the economical management of his flock, and at the same time satisfy him that costly shelters and contrivances for feeding may be dispensed with, and these objects attained at little more additional expense than he would incur in ricking his straw and securing his fodder without them.—Provender in abundance should be his aim, and I can conceive of no farm, of 500 acres, so exhausted, and unproductive, as not to justify a man in beginning, in the spring, with 300 ewes and 200 wethers, in perfect confidence of their finding food for themselves during that and the summer season, on the natural grasses and weeds furnished by the fields and the browse afforded by the buds, leaves and herbage of the forests, and still leave him land

enough to cultivate for their winter provision. As timber, for fencing, will soon cease to be valuable, in consequence of the introduction of wire for this purpose, which, I am persuaded, will take its place in the course of a few years, especially on sheep farms, for which it is peculiarly adapted, let him clear off fifty acres of woodland the preceding winter, preparatory to a corn crop; the fodder of which, cut up in September, if it is anything like what we would call a corn crop, would almost carry his sheep through the winter, with a little corn to help out in very severe weather; or oats, in the sheaf, at the rate of 10 sheaves to the hundred head, once a day, if his fodder is likely to fall short.—Moreover, he might seed a part, say fifteen acres, of his corn ground, with rye, at the last working in August; or, if he has laid this by sooner, put it in with harrows, cultivators, or any implement that will loosen the ground and admit the seed. Thus he will be secure of an occasional bite during winter; to save his fodder, and by shutting off his stock early in March, have the very best pasture for his ewes at weaning time, and be amply repaid for his rye, even if he does not permit it to mature, though he may do this besides, if the season is favorable, and he has a green field to turn his ewes on, allowing them half a bushel of shelled corn, per 100, per day, to help out. In this case he should sow clover in his rye a little before his sheep are turned off, that they may tread in the seed, and this will secure him early feed for his ewes the following spring, and, subsequently, pasture for his lambs, after they are weaned, as the ewes may be removed from it so soon as the woods put forth, and they can be allowed the range of such fields as are not intended to be cultivated, and stand most in need of restoration. These should be divided into enclosures of 10 to 15 acres, which will cost less than might be imagined, as sheep, of high grades, are little disposed to ramble, and may be confined by slight and low fences; and the ewes, with their lambs, divided into two flocks, be shifted from one to another, as the condition of the pasture requires. My plan is, to stock a field heavily, to get its produce consumed as rapidly as possible, and, by a large flock, to have it eaten off clean at once; whereas, if I stock lightly, the sheep roam over the ground in search of the young and tender plants and neglect the old, until they get so hard they will not eat them, to say nothing of their rendering a large portion of their pasture unsavory by their trampings and droppings. Nor does the land receive equal benefit from the manure of a small flock as from that of a large one, its slower application rendering it more liable to be dissipated by sun and air than when deposited in large quantities. Hence the notion, so prevalent among old time farmers, that "sheep are poison to land;" and so they are, if you keep a few to roam over your meadows, to pick out the young grasses and tread down the old; but turn in a number proportioned to the surface and its produce, and their instinct soon prompts them to make the most of their time and opportunity to crop as they go, and they will not only eat your field bare, as well of weeds as of herbage, for the time being, but leave behind them wherewithal to restore it very soon to superior verdure and productiveness. They should be shifted frequently, though it be to a less promising field, provided it be a fresh one, and moderately salted twice a week. Access to water is desirable, though not indispensable, at this season, and strict attention to cleanliness, if they are disposed to scour.

Eight of these enclosures, comprising, say 120 to 150 acres, should certainly carry the ewes through half the summer, leaving 150 acres unoccupied, i. e. if no part of them has been put in wheat the preceding autumn. Of these, 30 should be put in oats, with clover, and 40 without, which may do for wheat in the fall, to give your lambs after weaning, and thereafter pasture from the growth of the shattered oats, and they might even be permitted to run awhile on the former, without doing much injury to the young clover. The 100 acres still left, might be kept as reserve pasture, in case of failure elsewhere and to relieve those appropriated as above, or to help along with the wood range for the wethers. This I would underbush as soon as possible, with the exception of such parts as might be reserved to clear for corn; i. e. cut off all the small stuff and all trees under a foot, getting rid of the leaves by burning or raking; then harrow it, if convenient, and sow it with the sweepings of hay lofts, to be had of neighbors or the livery stables in town, for a trifle. I prefer it to clean seed, as it gives variety of herbage, and should weeds be among it, the sheep will soon eradicate them. If harrowing be inconvenient, sow immediately after raking up and burning the leaves, and turn in all the sheep, that they may tramp in the seed. Your wood-land, once set in grass in this way, will be a source of profit to you, enable you hereafter to release your arable land from stock when you want to increase your cultivation, and to say that every acre of your 500 is productive and available, while the timber left standing will increase in growth and value.

If wheat has been grown, preparatory to this system, there will be means at hand for providing shelters for your ewes and lambs the first winter. The last must have it—the first should, but may do without it. With wethers I consult convenience, and mine are oftener without than with it, and are always thrifty if they have plenty of food. But a few wagon loads of straw would make shelters, and could, I presume, be bought for a trifle, especially as such as is not considered marketable would answer the purpose.

I take it for granted, timothy will have been sown with the wheat, if any were seeded in the fall; if not, that every exertion will be made to get 20 acres in wheat and timothy at the close of the season, or at least 10, if your land is exhausted, manure scarce, and it is not desirable to purchase it. One of the fields on which the sheep have been running should be selected for this purpose, and, with the view of helping it, you might, after the lambs have been weaned in August, put all your ewes on it, occasionally, till seeding time. They can easily be divided again, by running them out at a gap, and closing it when about one-half are through, and this will separate them, as to condition as well as number, as the healthiest and strongest will always be foremost. I often resort to the expedient of driving a large flock up a steep hill, to save the trouble of picking out, by hand, the weak ones, which will always lag behind. The calculation in England is, that 1000 sheep will manure an acre for wheat in one night, and this will enable you to form some idea of the advantage to be derived from the number you apply to a given surface. If your old land is too far gone for cropping the first season, reserve it for another, and resort to that which you cleared and have in corn, and put 15 or 20 acres of it in wheat and timothy, which last, even if you cannot cut it, on account of stumps, will be of great advantage hereafter, and almost

equal to hay in winter, if you allow it to stand after harvest and do not pasture it until the frosts have destroyed the natural grasses. With corn fodder, sheaf oats and good wheat straw, you can get along for a year or two without timothy hay, for which I am always endeavoring to find substitutes, in the feeding of my flocks, as it is very costly, and rather a result than an accessory of good farming. But your land will soon produce it, under the system I have laid down, and you will not be entirely without it, as I have made provision for it in clover, which, if properly saved, is preferable to timothy for sheep.

If I have not over-rated the capacity of your land —and I cannot think I have, for four sheep to the acre is a very moderate allowance, and I have given you but one, while my own carries ten—you will have summer feed for your stock, provision for the winter, and be able to form some idea of your means for another season. If you are fortunate with your lambing ewes, you will add 250 head to your flock, and must determine whether this increase can be provided for the following summer. If doubtful, make room for them by selling your wethers, after the wool is off, or before, according to circumstances, in February, when they are in demand by the butchers. To fit them for this purpose, feed them well and shelter them if you can; at all events let them run where there will be some protection from cutting winds. It is said, "a stalk of corn daily, with all that is on it, will fatten a sheep," but I feed fattening wethers a little higher, that is, I haul oats on a sled, and spread on the ground as much unhusked corn, from the shocks left for this purpose, as will allow about a stalk per head. The calculation is easily made by knowing how much I had put to the shock, usually twelve hills square, and I add a couple of shocks of fodder to the 100 head besides, unless I have a good rick of straw for them to run to, and then the latter is unnecessary. Salt regularly, and let them have access to good water—absolutely necessary with dry food.

If, after selling your wethers, you find your pasture to accumulate, and your winter provision for your remaining stock likely to be superabundant, buy more ewes, in time to go to the bucks in November, and so continue to increase your flocks as the capacity to maintain them is developed.

Though the first year will be entirely experimental, I can see little risk attending it; but if I have over-estimated the capabilities of the land, diminish the number of sheep by confining yourself to ewes, and you will have corn to sell, to help out the income from wool. The capital to be invested in stock would be small. Such ewes as I would recommend can be had for $2 a $3, and wethers at $1,50, and $50 would supply you with bucks. As I have shown, no fixtures are necessary, and one man would hardly find constant employment with a flock of 500, in the winter; and in the summer he would be idle, if he had no other occupation. Be not disheartened in the outset, or expect your sheep to be in prime condition,—be satisfied to carry them along, and to encounter the difficulties of a beginning, as others have done before you, and as I certainly did. I had no hay, no fodder, no straw, no shelter, no enclosure, and used to go with the only hand I had, (a boy,) to help me, and cut up the corn stalks left by the tenant who preceded me, and whose stock had stripped them pretty close, and carry them out to my sheep, to help along with what they could glean, in winter, from the fields. But with you, as with me, every succeeding year will be more promising. The fields, eaten bare by your sheep in summer, will be the first to put forth in spring. Your sheep yard, where you winter them, will furnish manure for others, and you will very soon find the truth of what may, in the assertion, appear paradoxical, that the more sheep you keep the more you may, so far as provender is concerned, and you have ground for them to run on without being crowded, which they will soon convert into pasture. I have double, and might keep treble the number on the same quantity of land I allotted to it a few years ago, and my crops are doubled on my arable lands. Within a year or two I have raised on my hill farms, naturally thin, white oak lands, superb crops of corn and wheat, on fields so entirely exhausted when I took them in hand, that I would not go to the expense of ploughing or seed for them, merely turning sheep on them, as I found them, covered with briars, weeds and crab-grass, and about as unpromising as any you can have to show me. They have neither been manured, limed, guanoed, nor bone dusted, and are entirely indebted for their recovery, to sheep, which were at the same time yielding me income in wool, their increase paying cost of keep in winter—that of the summer being nothing.

I was sorry to see the application to your Legislature for protection against dogs—the only impediment I am aware of to sheep husbandry in your State—was unsuccessful. But this, with a little management, and the co-operation of intelligent neighbors, might be got over. Though by no means an advocate for Lynch law when directed against our own species, I certainly approve it as applied here to the canine offender, and the judicious and noiseless distribution of a little nux vomica, would soon occasion such mortality among these animals in your neighborhood as would induce those who set any store by them to keep them out of harm's way, while those who have them about their premises only because they are too lazy to get rid of them, or to annoy their neighbors while they are robbing their owners, would rather abandon them to their fate, than be at the trouble of taking care of them. This, with us, would be a short shrift—and a rifle ball. A stray dog or a stray buck does not annoy us long.

At the expiration of three years your farm, if I am not much mistaken, would wear a very different aspect from what it does now, and if you wish to continue with a tenant, other arrangements should then be made with him, to give you some advantage from your property, unless you saw fit to take charge of it yourself; in which case you might buy out his sheep and conduct the business on your own account. But, writing as I do, with so imperfect knowledge of the circumstances of the case, all I have said may prove entirely chimerical and impracticable, and I will therefore wait until I know how my plan has been received by you, before I enter into further details for the present, or other development of my system for the future, withholding, at the same time, for want of leisure, and from the apprehension of useless trespass on your patience, the inducements to be offered to a tenant to take your farm on the above conditions, or your own prospects of remuneration in the progress to improvement of your estate, if you undertook it yourself.

I have written the foregoing under the impression that your farm, from your account of it, is little better than a waste, and have, therefore, selected the spring for the commencement of operations, that time may be afforded to make provision for the stock.

But if you have provender on hand, say 20 a 30 acres of corn, a field of wheat, another of oats, and some hay, the autumn would answer as well for a beginning. In some respects this season would be preferable: The stock could be procured for less money, and by selecting ewes, would be increased, by spring, without cost, as the wool would more than pay for their keep, under every disadvantage, and you would have manure to help out your crops next season.

I am really anxious to see this experiment made in my native State, for which I retain all the attachment of youth and early associations, and would be highly gratified to have been instrumental to the introduction of a system of husbandry I am satisfied would be productive of the most beneficial results to your exhausted soils. The costly manures now in vogue with you, cannot but be temporary in their effects, unless followed up by a judicious system of grazing. Cattle and hogs will continue to be produced on the rich lands of the West, where corn, at 12½ to 25 cents per bushel, and natural pasture, furnish means of fattening them for market which defy your competition, while this same abundance is unfavorable to sheep, rendering the wool coarse, though it improves the carcass for slaughtering. Our best flocks and wool, in this quarter, are from Washington county, Pa., an old settlement, where the soil is naturally light, and was, before the introduction of sheep, almost as exhausted as yours. What that county now is, I need not inform you. Certainly behind this region and the West in the production of grain, but rich in pastures admirably adapted to sheep husbandry, and owing the prosperity and wealth for which it is distinguished, to the flocks now luxuriating in the fertility their predecessors were mainly instrumental in producing, and which they are still sustaining.

Why should not this be the case with Maryland? Only because she wants a pioneer in a new undertaking—a practical man, who will eschew theory and fancy farming, and be content to assist nature, without attempting to direct or control her.

Sincerely yours, W. B. B.

GLEANINGS BY THE EDITOR OF THE AMERICAN FARMER.

IMPORTANCE AND EFFECTS OF DRAINING LANDS.

The following item from *Falkner*, will set forth in bold relief the *immense advantages resulting from draining wet lands*:

"*To lay manure upon wet soils, is, indeed, to throw money away*; but were draining universally effected, the whole of the now comparatively unproductive soils of the country, would, to a vast extent, be rendered capable of receiving the benefit of the numerous modes of fertilizing it. Its *returns are immediate*, as well as *compensative*; and to hesitate to drain the land, is to hesitate to confer a benefit upon one's self, of which a strong proof has been lately brought forward in a statement of the profit resulting from the drainage of 467 acres, and the employment of the drain water over 89 acres of land, on the estate of Lord Hatherton, in Staffordshire, *affording a clear annual interest on the outlay of full thirty-seven per cent.*"

In illustrating the propriety of *relieving arable lands of any excess of water*, professor *Gray*, very forcibly remarks:

"The necessity and importance of draining wet grounds, may be rendered evident by the following considerations.

1. An excess of water or moisture prevents the ploughing and pulverizing of the soil until late in the season, and when the attempt is finally made it can but imperfectly succeed; hence the manures, not being properly incorporated with the soil, are deprived of their effect upon the roots. The crop is checked and is liable to be injured by early frosts.

2. An excess of moisture prevents the process of decay, or the decomposition of the organic matters in the soil, and thus cuts off a *regular* supply of food. This effect is exemplified in peat swamps, where the vegetable matters being prevented from decay by water, accumulate in large quantities, to the depth often of 20 feet, and form peat.

3. Lands which have an excess of water, often become *dry* and *compact* in seasons of drought. The roots are thus prevented from penetrating the soil, and from extending themselves freely in all directions, but, the influence of the air, and of the dew, which are so important in dry weather, are almost wholly excluded from them. Hence such soils, especially if they are stiff clays, suffer as much from drought as from excess of moisture.

4. When the roots of plants extend into a wet soil, the food is too much diluted, or is not prepared in sufficient quantities to ensure a healthful and vigorous growth. Leaves and ill-formed shoots will sometimes be abundant instead of flowers and fruit.

5. An excess of water injures and destroys the fibrous portion of the roots, or spongelets, by means of which, nourishment is received. This effect takes place when the water becomes stagnant and putrescent, as it is liable to become when the land is level and the subsoil retentive. In others, the plant rots off at the ground, especially if there is light and heat.

6. An excess of water excludes the influence of heat and air, two indispensable agents in the growth of plants.

7. Experience shows however well a soil may be constituted in its mineral ingredients, and however rich it may be in humus or geine and salts, no cultivated crop will flourish well, unless the surface of the soil and the soil itself, is made dry during the growth of the crop, and when required to be worked by the plough or hoe,

Hence the *utility of draining* must be evident to every farmer. For a system of draining, rightly conducted, will not only remedy the evils above described, but will save much time and labor in the cultivation of the crop; two weeks at least, will be gained by the getting in and ripening of it. *The product will be one-third greater, and one-third of the labor saved in the tillage.*"

De Condolle regards the influence of stagnant water about the neck of plants, as operating simply to exclude the oxygen of the air; but

Lindley, more properly attributes the injury to the *low temperature* of the soil in which water is suffered to accumulate. It is because of the danger, says *Lindley*, of allowing any accumulation of water about the roots of plants, that drainage is so very important."

Professor *Norton*, in his new and able work upon "*Scientific Agriculture*," in treating of the subject of the mechanical improvement of the soil, has the following chapters:

THE EFFECTS OF TOO MUCH MOISTURE IN THE SOIL.

"I come now to mention a defect in soils which is of very great importance, and which has not as

yet been fully appreciated in this country. This is the presence of too much moisture. Wherever water is so abundant in the soil as to completely saturate it, various evil effects take place.

The necessary decomposition of organic substances is arrested, and certain vegetable acids are formed, called by chemists *humic, ulmic, geic acids*, etc. In swamps and low grounds generally, these accumulate to a large extent, and form the deep black soil or muck of such situations.

So long as these acids are present in such excessive quantity, valuable plants refuse to grow; but as is well known, when the muck is taken out and dried, it becomes a valuable manure: this is because air and warmth obtain access, and the process of decomposition goes on again. In order to avoid misapprehension, it ought here to be mentioned, that these acids in small proportions are really useful in the soil, as furnishing a portion of their food to plants. It is the *excess* of them that does so much injury.

It is not only in swamps that this injurious formation occurs, there is much land which is too wet in the early part of the season, or in which are springs that saturate the surface; this land may be hard, and may even bear ploughing, yet still it is what farmers call *cold* and *sour*. These are exactly the proper words, for they truly express its qualities. Considerable and injurious quantities of these vegetable acids are formed, and the water, by constant evaporation from the surface, produces cold; the grass is scanty and poor, while rushes show themselves in the wettest spots. There are large tracts of such land as this in almost every part of the country. Farmers think such land too dry for draining, and yet that is the only way to make any permanent improvement upon it. It is cold and late in spring, apt to bake hard in summer, and to suffer from early frosts in autumn. It is not in a fit condition to support good crops, and the only way to bring it into a good state is to dry it.

Some land is dry on the surface, but has a wet sub-soil: when the roots of the plants get down to this, they find at once injurious food, not only the acids already mentioned, but inorganic substances. The protoxide of iron is very apt to form in such places, and is at once fatal if the plant can find no nutriment in other directions. In this case too, *the only remedy is to drain*. The good effects of this operation on all soils suffering from any of the causes above mentioned, are very remarkable, and must briefly be specified before going farther."

ON THE CHANGES WHICH RESULT FROM DRAINING.

"When the drain is made and covered (for I always mean here covered drains), the water which falls upon the ground does not remain to stagnate, and does not run away over the surface washing off the best of the soil, but sinks gradually down, yielding to the roots of plants any fertilizing matter which it may contain, and often washing out some hurtful substances; as it descends, air and consequently warmth follow it. Under these new influences the proper decompositions and preparation of compounds fit for the sustenance of plants go on, the soil is warm and sufficiently dry, and plants flourish which formerly never would grow on it in perfection at all. It is a curious fact, too, that such soils resist drought better than ever before. The reason is, that the plants are able to send their roots much farther down in search of food, without ever finding anything hurtful. Every part being penetrated with air, and consequently drier and lighter, these soils do not bake in summer, but remain mellow and porous. Such effects cannot, in their full extent, be looked for in a stiff clay during the first season; the change must be gradual, but it is sure."

RICHARDSON ON THE POTATO ROT—THE POTATO CURL, AND MARSH MIASMA.

Dr. *Charles Richardson*, an experienced physician of Baltimore county, who, last year, favored the *Maryland State Agricultural Society* with a very interesting paper upon the *Potato rot*, and its *cause*, has recently published a pamphlet of 91 pages, entitled, "The Potato Rot and its Cause, the Curl disease and its cause, with some observations on Miasma and Miasmatic Disease, showing the nature of marsh effluvia, and pointing out a certain preservative from bilious affections in malarious regions—as also a new mode of ventilation."

Dr. Richardson has selected subjects for discussion which are full of interest. In the two first he treats of the causes which produce the *potato rot* and the *curl*, those two fatal diseases which destroy the potato; and in the latter he points out the cause not only of malarious affections, but the means, which, he believes, may be used to render *malaria* innocuous in its effects, as also the agent by which the treatment of persons laboring under such affections may be rendered certain and successful.

The Doctor enters into a history of the potato, its introduction into use as an edible vegetable, the time and mode of planting and culture, its product, as well as its entire economies.

The *potato rot* he considers of recent origin, as being but little known before 1843, and estimates the number of deaths produced by the failure of the potato crop in Ireland alone, at 250,000. The product of potatoes in the United States he sets down at 114 millions of bushels, and considers a fair average loss, in various years, at from one-third to one-fifth, or, in money value, to several millions of dollars annually. Sporadic cases of the malady had occurred before 1843: before that year it had prevailed as an epidemic in Holland and Belgium: in 1838 it occurred in Pomerania, and in 1836 and 1841 in the Rhenish Palatinate.

He then describes the appearance, cause and effect of the malady:

"The first appearance of the disease is shown by yellow spots on some of the leaves; these, however, soon become of a black color, first in spots, and then the whole of the leaf. This very gradually increases until the leaves assume a blackened, blighted, appearance: the stalk then seems to droop, and finally falls, in many cases, to the ground, and is generally dead for about four inches from the earth. Notwithstanding this, the upper part of the stalk often appears to possess a weak degree of vitality. In many instances, however, the stalk stands erect, leaves partly black and partly yellow; and so the whole top gradually dies and dries up: yet, while in the green state, upon a dissection or splitting open the stalk, you perceive some insect has bored its way down the pith, at first very small, but as the track progresses, it gets larger and larger, until within three or four inches of the ground, the whole pith or circulating capillaries are destroyed. Here generally is to be found a white worm with brown head and pincer mouth, which has eaten the pith, also its exuvia filling the whole cavity. Whenever the egg or the worm can be found in the plant, the rot can always be perceived in the tuber. This worm is the larva of a species of the curculio or

weevil, which, in the larva state, feeds on the capillaries of the stalk for about four weeks, then ceases to eat and undergoes its metamorphosis. In this early stage of the disease, twenty-four hours after the deposition of the egg, which is generally inserted into the stalk, about twelve inches above the ground, you can trace a poisoned, diseased appearance of the capillaries wounded, losing their green and assuming a yellowish color, extending about one inch below where the egg is deposited, in forty-eight hours reaching to the runner, and in sixty hours extending through the runner and outer concentric circle of the tuber. At this time and several weeks later, to all appearance externally, the potato is sound. On laying open the stalk it cuts hard and harsh, as if it was wood. By strictly examining the stalk a foot above the ground, a small spot can be discovered, first black, soon assuming a dead appearance; this is where the egg is placed. These are the symptoms of the disease; as it progresses, the stalk dies. About eight weeks after the deposition of the egg, the tuber assumes a rough, warty appearance, and cuts harsh to the knife. This is the first stage, or honey-combed rot: as it increases, it spreads along the exhalent vessels to the first concentric circle, and so through the cells, &c., until the whole potato is a mass of rottenness, with a very offensive smell. Often the progress of the rot is very slow, and remains stationary, unless under peculiar circumstances; for instance, if the diseased potatoes are kept in a cold dry place, it will be a long time before they will entirely rot; but if they are heaped in large parcels, and a few very warm, damp days come, they will be a mass of putrefaction. In some seasons and cases, the whole of the cells appear rapidly to decay, and assume a watery consistence; the skin separates, and seems as if it were a bag: open this, and a large portion of fluid runs out of a flaky, watery nature; the residue is a decayed, fungous substance."

Dr. R. maintains that the disease is of *animal* origin—is produced by a variety of the *curculio*, of a brownish-black, or lead color, rather more than the 12th of an inch in length, one-third of a line in breadth, has 6 legs and 2 wings—upon touching it, it simulates death—head conical, horns many-jointed and clubbed at the extremity, body perfectly black, no apparent neck, head a little larger at the base than at the extremity, 5 irregular black spots on the back; when the horns are erect, they give the head the appearance of a forked proboscis. The worm or larva is rather larger than the perfect insect, the whole body white, head reddish-brown, it feeds 4 or 5 weeks, ceases to eat, then forms a sort of cocoon. The egg small, inserted in the stalk, 10 or 12 inches above ground—the egg hatches in 8 or 10 days, the larva hardly perceptible to the naked eye—egg of reddish transparent color, nearly the size of a tobacco seed. The insect operates at night, lies quiet in the day. Generally makes its appearance the beginning of June."

The *curl*, the Doctor also refers to an insect of a round form, of a red, brownish color, which also simulates death when touched.

Upon the subject of *malaria* and *malarious diseases*, the Dr. is radical in the extreme:—he repudiates all former theories, refers all bilious discases, intermittents, yellow and typhoid fevers, as well as CHOLERA, and all disturbances of the intestinal viscera, to the same general cause, a want of equilibrium in the atmosphere, or, in other words, to their being a diminished quantity of oxygen in the atmosphere, and gives the names of several patients whom he cured by practising upon his theory; that is, by the artificial supply of the deficient quantum of oxygen, as an auxiliary agent in his treatment. He contends that upon his plan of providing *oxygen*, by artificial means, *all situations and localities may be rendered perfectly healthy*. The essay of Dr. Richardson upon this branch of his pamphlet, is highly ingenious, bold, daring, revolutionary and defiant in its tone and spirit. He rejects the nosological arrangement of disease, and considers its treatment upon that principle, as "futile nonsense," and as being "apt to lead to prescribing for the *names* of disease, rather than the disease itself:" he denies that *fever* is a disease, and asserts it to be "only a symptom of disease."

We do not affect to be competent to judge of the soundness of the Doctor's views with regard to the nature of the causes which produce disease in the human system, nor of the propriety of the treatment which he recommends; differing as he does from most of the received and cherished theories of the faculty, it would be presumptuous in us to undertake to decide; that must be left to wiser heads than our own.

Of his essay upon the cause of the *potato rot*, that being in our line of business, we feel justified in saying, that the facts arrayed by Dr. R. are strong, and go far to convince us, that if he has not discovered *the* cause, he has come nearer to it than any other author that has ever come under our notice, and we have read as many treatises upon the subject as would form a volume as large as Johnson's quarto dictionary.

Returning to Dr. Richardson's theory upon the subject of human diseases and their causes, we would remark, that he denies that there is any entity entitled to the name *miasma*, and attributes all the diseases caused by exhalations from marshes and decaying vegetable matter, not to any noxious quality of the exhalations, but to the dilution of the atmosphere caused thereby. That is to say, that, in inspiring a given bulk of air so tainted, that the quantity of oxygen requisite for healthful vitality is not supplied, and consequently a quicker respiration is thus brought about by the efforts of the system to supply the deficiency. That this quick and unhealthy respiration is unable to properly decarbonize the blood, and thus causes a wrong and sluggish action of all the organs composing the human system, which result in some of the many bilious diseases. So much for the theory; whether true or false, it at least merits careful consideration, and should not be rejected hastily, as it bears about it a certain plausibility that smacks of utility. Now for the preventive. The Doctor proposes to supply this supposed deficiency by oxygen itself, derived from the decomposition of the *black oxide of manganese*, through the agency of sulphuric acid and heat. The quantity of acid requisite to a complete reaction, is double the weight of the oxide of manganese used. The decomposition should be carried on in a long-necked retort, the beak of which must be in a vessel containing water; heat to be applied to the body of the retort until gaseous matter ceases to pass. The composition of the oxide of manganese 27.7 parts of manganese to 16 parts oxygen, half of which oxygen is obtained by the process indicated; however, as the oxide of manganese of commerce is never pure, and does not, on an average, contain more than two-thirds of the pure

oxide, there is one-third less oxygen obtained than the above numbers show, 1 lb. yielding about 1500 cubic inches of the gas. The *Chlorate of Potash* will, however, be found far preferable to the manganese, as the substance to obtain the oxygen from, it being more manageable, and yielding about six times more oxygen than the oxide, and requiring nothing but heat to decompose it; and, moreover, the oxygen thus set free, is pure and devoid of the unpleasant odour, which that obtained from manganese is apt to have, owing to the impurities spoken of. The chlorate of potash is some 10 or 12 times dearer than the manganese, but its advantages far outweigh the increased cost. The quantity of oxygen requisite to be used for a certain time, the Doctor does not indicate. The better plan of using it, would be to prepare a quantity of the gas, and preserve it in a suitable vessel till wanted for use, and then place it in the sleeping apartment, and permit the gas slowly to escape through a properly arranged aperture. It being recommended to be used only at night, 3 ounces of chlorate of potash or one pound of peroxide of manganese would furnish some 6 or 8 gallons of oxygen gas, a quantity one would think sufficient to supply the deficiency, for one or two nights. The quantity requisite is, however, we take it, to be fixed by future experiments.

WORK IN THE GARDEN.

Though there is not a great deal of new work to be attended to this month in the garden, there is still enough to keep your gardener busy: first of all let us attend to the

Preparation of the Cabbage Bed.—Influenced by a desire to put you in the way of securing a supply of Cabbages for use early next summer, we advised you last month to sow a bed of sorts to raise the plants. Now, if you took our advice, those plants are nearly ready to be set out, so that the next thing in order is, to prepare the bed for their reception, which we shall now do. Select a loamy, dry bed, manure it highly, dig in the manure full a spade deep, rake fine, and with a hoe form ridges 3 feet apart, 4 inches high. On the *north* side of these ridges set out your plants, 6 inches apart. This closeness is necessary to provide against destruction by frost; so also, should the plants escape the frost, they will afford you many messes of greens and collards in spring from the thinnings out, as it is intended that the plants left for heading, shall stand 2 feet apart ultimately. Towards the latter part of November, place stable manure along the line of plants; this will afford protection through the winter. In the spring, as soon as the frost is out of the ground, haul down the ridges over the manure, and thus accomplish the first working of the plants. Thin out afterwards, so as to leave them 2 feet apart, as you may need collards for use; work them as they may require it—attend to their being watered in dry weather, and you cannot fail to have an ample supply of fine hard-headed, delicious cabbages, early next summer.

Spinach.—Weed and thin out your Spinach bed.

Lettuce.—Clean and thin out your Lettuce plants that are now in the process of heading.

Endives.—Tie these up for blanching.

Cauliflowers and Broccoli.—Let these be hoed and earthed up.

Asparagus beds.—Towards the latter part of this month, when the stalks become yellow, cut them down and burn them—fork in some well-rotted horse dung between the rows; then cover the beds with an inch of the same kind of manure. Early next spring sow salt and ashes, in equal quantities, over your beds, first having forked in the manure between the rows, with care, so as not to injure the crowns of the plants.

Celery.—Earth up your Celery for bleaching.

Small Sallading, of kinds may still be sown.

Rhubarb.—Prepare a bed and sow seed.

Horse Radish.—Plant out a bed of this excellent condiment.

Roots.—Take up, and store away these, before frost shall have injured them.

Raspberries, Currants, Gooseberries.—Transplantations of these can now be made.

Hoe and clean up all the vegetable departments.

Anbury—Club-Foot, Fingers and Toes.—Cabbages, Turnips and Radishes, when grown too long, or frequently, on the same ground, are subject to a disease called by each of these names. It consists in protuberances formed on the roots and stalks, and is generally fatal to their growth. The cause of this disease is referred to the maggot of a weevil that is supposed to deposit their eggs a few inches beneath the surface of the ground. If you have any beds of this description, they should be dug up this fall about 6 inches in depth, and receive a dressing of freshly slaked lime, or unslaked ashes, put on tolerably thick, and the beds left in the rough. Next spring, as soon as the frost is out of the ground, rake these beds, dig them a full spade, or a spade and a half in depth, and give them a dressing of equal parts of lime and ashes, then rake the mixture in, and it is possible you will have destroyed the cause of the disease.

All beds with stiff clayey soils should be treated in the same way, with a view of breaking down their tenacity and amending their texture. In addition to which it would be advisable to put on a few loads of sand, which should be intimately incorporated with the surface-soil.

FLORAL DEPARTMENT, FOR OCTOBER.

Prepared by John Feast, Florist, 279 Lexington st. for the American Farmer.

The time is come now when everything should be in readiness for the approaching fall. Preparations should be made for putting in the houses such plants as require being taken in and will not stand the winter unprotected; have them all re-potted, if necessary, in suitable sized pots; give good drainage and the proper soil, as different plants require different soils; have them all neatly tied up and divest them of insects before taking them in the house.

Camelias will require top dressing; re-pot such as are in too small pots; cut the inarches off if sufficiently united; be careful and shade for a few days after, and give them occasionally a syringing of water over their foliage. Seed will begin to ripen, and should be planted directly when gathered, or be kept in dry sand till a more convenient time to plant them.

Azaleas will not want much water at this time, as they ripen the wood much better without it, and also set their flower buds more perfectly. Pot all young plants or layers that are sufficiently rooted.

Geraniums that have not been cut down, should be attended to and re-potted. Plants that are struck from cuttings should be re-potted in small pots.

Cinrarias and *Chinese Primroses* should be re-potted in large pots.

Chinese Hibiscus, Salvias, Justicias, Periwinkles, Coral Trees, and all others of tender kinds should

be carefully lifted out of the borders where planted through the summer, and re-potted or put in boxes of suitable size, and put in the house before the nights get too cool. All such require being protected before the hardy greenhouse plants.

Violets should be re-potted and planted out in a frame for flowering through the winter.

Pansies should be propagated and seed sown, if not already done, for flowering plants next spring.

Cactuses will need re-potting or top-dressing before being put in the house. Grafting may be done of dwarf showy varieties.

This month the borders will have to be prepared after the annuals and other plants have done blooming and taken up, as many plants can be taken up and re-potted that will flower some time in the house and make a display of bloom until the winter flowering plants, as Camelias, Oxalis, Chinese Primroses and others come into bloom, thereby giving succession of flowers.

Dahlias will have been in the greatest bloom, and when the frost cuts them off they should be carefully taken up, correctly labelled and put away for the winter in some place secure from the frost.

Roses.—Re-pot such as need it for flowering in winter; those not wanted, can be kept in a cold frame out of doors till spring. Remove any in the borders, or any kind of plant, tree or shrub. Box edgings may be planted out, if required.

Prepare the borders for Bulbous roots, as Tulips, Hyacinths, Crocuses, &c., and plant them.

Roots of Tuberoses, Gladiolus, Ferrarias, Jacobea lilies, and all tender bulbs, should be taken up and dried before being put away in a secure place, to prevent their being destroyed by frost.

THE WHEAT DRILL IN CORN GROUND.

BLACKFORD, QUEEN ANN'S COUNTY,
E. S. Md. July 20, 1850.

There having been a question as to whether the wheat drill could be advantageously used for seeding corn ground, I beg to give you my experience with the drill bought of Sinclair & Co. last year.

I seeded two fields of forty-five acres each—one fallow, the other corn ground. My corn having been cut off and set up in rows through the field, the ground was ploughed up, and a heavy drag passed over it. By this process, some of the corn roots were covered up, but a large part of them were dragged to the surface, and by the action of the drag, freed in a great measure of earth. When the drag left them, there they remained—none being removed from the field. With this preparation only, I used the drill, without finding any obstruction from the corn roots. The roots being firm,—not flexible, seldom or never became entangled in the teeth of the drill; but when struck by the teeth, would pass on the one or the other side, and so through. And my corn ground was seeded with as much regularity as my fallow. In fact, if fallow is grassy, the grass will often wrap itself around the teeth of the drill, and is likely to offer more obstruction, than corn roots offer to the regular distribution of the wheat. After my wheat had attained sufficient height to hide the corn roots, that lay on the surface, an observer could not tell whether it was corn ground or fallow, as the wheat was distributed with equal regularity on my two fields.

The escape of the corn roots from entanglement with the drill, is, I think, facilitated by the arrangement of the teeth in two rows, placing them alternately forward and back. This arrangement while it preserves the proper distance between the rows of wheat by the drill, increases the distance between the teeth, giving more space for the passage of the corn roots. Very respectfully,

W. H. D'C. WRIGHT.

CLAIRMONT NURSERY.—We made a call at this long established nursery, on the last day of August, and were highly gratified, in walking through it, to observe the trees and plants in vigorous growth and fine health. As many of our readers know, it was originally established, many years ago, by our respected old fellow citizen, *Robert Sinclair*, Sr. For the last few years, it has been under the management of his *son in law*, Mr. *William Corse*, who it is but justice to say, appears to be animated by the same zeal and enthusiasm, which, under the care of its original founder, gave to his nursery a high and well deserved reputation.

The assortment of *Apples*, *Pears*, *Peaches*, *Plums*, *Apricots*, *Grapes*, *Quinces*, *Cherries*, *Strawberries*, *Raspberries*, *Currants*, *Gooseberries*, &c. embrace all the choice varieties:—in the *floral* department may be found almost every flowering plant and shrub, while the collection of ornamental trees, *evergreen*, as well as *decidious*, combine all that is beautiful, to be found either at home or abroad.

The grounds allotted to the Nursery, consists of some 70 acres, and when we say they are well filled, the reader will know that there is *room* to pick and choose. The *standards* at the date of our visit were in full bearing, displaying their delicious fruits to the best advantage, well calculated to tempt a man to plant an orchard, if he had none, or add to the one he might have growing. Those to whom *Baltimore* offers a convenient point of supply, we are sure would consult their interests by visiting the *Clairmont Nursery*, as there is no other in the country more extenive or select, or where the proprietor can be more relied upon.

Catalogues, now preparing, will be furnished to those wishing to purchase, and we will take great pleasure in forwarding orders from our friends at a distance, to the Nursery.

DANA'S ESSAY ON MANURES.—*C. M. Saxton*, 121 Fulton street, New York, has just published Dana's prize essay on manures. The high reputation of this gentleman as an agricultural chemist, would, of itself, be a passport to anything he would write upon the subject. But independent of the celebrity of its author, the present little work bears an impress of so much talent, so much profound knowledge, and so happy an adaptation of the means of rendering the subjects upon which he treats, familiar to the learned and the unlearned, as to stamp and enhance its value. The style is at once colloquial, lucid, and simple, while the author's inductive mode of conversation, so addresses itself to the understanding, that the reader becomes interested and instructed at the same time. Though small in size, it is truly one of those rare works, of which it might be affirmed, contains volumes of information in a few pages.

It is for sale at the American Farmer Office.

The Plough, the Loom and the Anvil.—The September number of this admirable journal reached us a day or two in advance of time, and, as usual, evincing by its well filled pages that its highly gifted editor, like wine, improves by age.

AMSTERDAM BLUE GRASS SEED.—"This seed was brought from Germany about nine years ago, and has proved to be the best grass for grazing ever known. Farther—you can cut two crops of hay every season. It will produce more hay to the acre than any other grass; the blade is soft and more palatable than any other grass known."

The above is a copy of an advertisement of Messrs. McNairy & Hamilton, of Nashville, which we find on the cover of the *Naturalist*. The high-sounding praise given this grass has increased our bump of inquisitiveness, and we would thank our friend *Fanning*, the editor of the N., to tell us more about it. Good grasses are good things, and if this be "the best for grazing ever known," and will "cut more hay to the acre than any other grass," its virtues deserve to be known more extensively.

We should like to know its *Botanical* name—what soil it most delights in—time of sowing—quantity of seed sown per acre—whether it be perennial, biennial or annual—the actual quantity of hay product per acre at a single cutting—its height when in bloom—whether it be calculated for southern culture—the price of seed per bushel, and such other information as may suggest itself to the mind of our enlightened friend, as being proper to be known.

NEW YORK PREMIUM CROPS.—Premiums were granted by the New York State Agricultural Society, in 1849, for the following products:

To Adam Clarke, for an average acreable product of 42 bushels and 20 lbs. of *Winter Wheat*, on 5 acres and upwards.

To George Krells, for 37 bushels, 39½ lbs. *Spring Wheat*, per acre.

To David Conrad, for 36 bushels, 4 lbs. *Rye*, per acre.

To E. R. Dix, for 83 bushels, 4 qts. *Indian Corn*, per acre.

G. S. Sherwood raised on an acre and 4 rods 119 50-60 bushels *Corn*.—Mr. Ira Apthrop raised 88 bushels and 11 lbs. on an acre, but the rules of the Society requiring not less than 2 acres, no premium could be awarded.

The premium for *Barley* was for 50½ bushels per acre—for *Oats*, for 85 bushels per acre—for *Buckwheat*, 33 bushels 22 lbs. per acre—for *Peas*, for 27 bushels 20 lbs. per acre—for *Potatoes*, 252, 241½ and 218½ bushels per acre—for *Ruta Baga*, 984 bushels per acre—and for *Carrots*, 941 bushels per acre, as also for 574 bushels on half an acre, which is 1148 bushels per acre.

SOLUTION FOR PLANTS AND VINES.—Dissolve ½ gallon of *soft soap* and 1 gallon of soot in a barrel of water, and sprinkle your vines and plants of an evening just before sun-down, and you may protect them from *bugs*, *lice*, the *aphides*, and other destructive insects. This mixture will also act, if repeated, as it ought to be, as a very efficient manure. It contains the food of plants in the best possible state for appropriation. After sprinkling your plants or vines, sow on them ashes, soot, or snuff. By repeating these applications a few evenings, you will either kill or drive the insects off.

CANADA THISTLES.—These pests can be destroyed by not permitting them to go to seed, and by cutting them off close to the ground for several successive seasons. They are held in such dread in Wisconsin that the legislature has passed a law making it a *misdemeanor*, fineable in not less than $5, nor more than $10, for any farmer to permit them to go to seed on his place.

THE FARMER'S GUIDE.—We have received Nos 7th, 8th and 9th of this excellent, highly learned and practical work, and find it such as every farmer who wishes to keep pace with the improvements of the day, should not only have, but study. It treats fully upon the science and practice of agriculture, and enters with spirit into all the operations of a well conducted farm, from the breaking up of the soil to the disposition of the crops.

The work can be had of Col. Hickman, Baltimore, near North street.

WASHINGS OF SHEEP AS MANURE.—Dana has this upon this subject:—"Connected with flocks and wool, there is a very valuable product, rich in all the elements of manure, which is often lost or not used for agricultural purposes, namely, *the sweat*, or natural soap of wool. Fresh clipped wool loses from 35 to 45 per cent of its weight by its washing. This is due to a peculiar matter exuded from the wool, and which chiefly consists of *potash*, *lime* and *magnesia*, united to a peculiar *animal oil*, forming an imperfect soap. It is remarkable that this soap of lime, in all other cases insoluble, is here soluble in water. The experience of the best French agriculturists, is full of testimony to the good effects of this wool sweat. It has been calculated that the washings from wool, annually consumed in France, are equal to manuring 370,000 acres of land."

Now the question arises, whether it would not be an object with the owners of flocks of sheep to make their arrangements, so to wash them as to save these valuable substances? A just regard to the teachings of an enlarged economy, would answer in the affirmative. Our motto is, waste nothing that can be made to subserve the purposes of vegetation.

THE LAW OF THE ROAD.—The law of the road is this: Proprietors of land through which public roads may pass, relinquish their lands for the use of the travel of such roads—nothing more. The right in *fee* is not disturbed, but such proprietors are just as much entitled to the grass or whatever else may grow on the side of such roads, as though the lands had not been taken for public thoroughfares, and was still enclosed by them. Therefore, no one has a right to depasture his stock on any other part of a public road than that which at the then time may belong to him. The practice of *road-pasturing* is a bad one, and it is well that the law denies the right to any one, of feeding his stock at another's expense. Every man should have a pasture of his own, and be above turning his cattle out to trespass upon his neighbors. The practice is highly objectionable in morals, and condemned by the law.

LICE ON CATTLE—FLEAS ON DOGS AND CATS.—With the exception of the caption, we copy the following from the "Farmer and Planter," published at Pendleton, S. Carolina:

"*Linseed oil* will destroy all kinds of *lice* which are found upon cattle, or upon any kinds of quadrupeds. It will effectually destroy fleas on dogs or cats."

"The oil must be thoroughly rubbed in the hair of the animal, leaving no part untouched."

We have no doubt of the efficacy of the above; though we have never used linseed oil for the purpose, we have frequently applied fish oil to cattle affected with lice, and always with success; so also to chickens. In applying it to our cattle, we commenced rubbing in the oil at the crown of the head, following the back bone to the root of the tail; the mode recommended, being more general, will, of course, prove more *speedily* effective.

AMERICAN FARMER.

BALTIMORE, OCT. 1, 1850.

TERMS OF THE AMERICAN FARMER.

$1 per annum, in advance; 6 copies for $5; 12 copies for $10; 30 copies for $20.

ADVERTISEMENTS inserted at $1 per square of 12 lines, for each insertion. In case of the continuance of an advertisement for six months or longer, a liberal deduction will be made. Address, SAMUEL SANDS, Publisher,
At the *State Agricultural Society Rooms*, No. 128 Baltimore st. over the "American Office," 5th door from North-st.

THE THIRD ANNUAL CATTLE SHOW AND Agricultural and Horticultural Exhibition OF THE MD. STATE AGRICULTURAL SOCIETY,

Will be held on the 23d, 24th and 25th Oct. (this month.)

We wish to call the attention of the members of the Society to the *rules and regulations*, as presented in the printed programme, which was forwarded to all our readers, with the June No. of the Farmer.—Those wishing to obtain copies, can do so on application at our office.

Let it be remembered,

1st. That the Society meets on the evening of TUESDAY, the 22d, at the Society's Hall, 128 Baltimore street, at 7 o'clock.

2d. That none but *members* are admitted to the show grounds, *on the first day*, whilst the judges are making their examinations. The judges are requested to report themselves to the Secretary prior to, or at the meeting of the Society on the 22d, so that any vacancies which may exist can be filled up.

3d. Every member must exhibit his badge previous to admission within the enclosures of the Show Ground. The Treasurer will be in attendance at the Annual Meeting, and at the business office of the Society at the Show Ground, during the Exhibition. A member's badge admits himself and the females of his own family, and is not transferable.

4th. All entries must be made for competition, and the animals or articles on the ground on or before the 22d of Oct., otherwise the Society will not be responsible for omissions on the list.

5th. Applicants for premiums for fat sheep, fat cattle, butter, field crops, &c. must have complied with the terms of the Society, and the statements from Exhibitors lodged with the Secretary prior to 1st Oct.

6th. All Exhibitors for premiums must become members of the Society, and have their animals or articles entered at the business office before taking them into the enclosures.

7th. The 2d day the Exhibition will open to visiters. Tickets of admission, 25 cts. The Plowing Match will take place on *Thursday*, the 24th, at 10 o'clock.

8th. The 3d day will also be open to visiters. The Annual Address will be delivered at 12 o'clock, on Friday, by the Hon. *Willoughby Newton*, of Va.—after which the awards of the Committees will be read, and the Premiums distributed.

The Railroad and Steamboat Companies have been requested to furnish the usual facilities to those wishing to bring stock, implements, &c. free of expense, to the Exhibition, and no doubt they will be granted—as also to issue round trip tickets, at a reduced rate, to persons wishing to be present.

THE CATTLE SHOW.

We have taken special pains to obtain all the information in our power relative to the prospects of the coming Exhibition of the State Society, and we think we can, with all safety, promise that the number of visiters from a distance will certainly be doubled, and we think they are more likely to be trebled or quadrupled, over that of last fall.

The utmost exertions are making by the officers of the Society, that the Show shall be on a more extended scale than those which have preceded it—the premiums have been increased more than one-third, and a number of new items introduced which were not on the list last year.

The Committees appointed to award the prizes, are composed of gentlemen who may be relied on to dispense exact justice, and all may rest assured that the most untiring efforts will be made to render the Exhibition effective in all its parts.

TO THE OFFICERS OF THE STATE SOCIETY.—We appeal to the gentlemen holding offices in the Society, to be at their posts, and divide the labors and responsibilities, so as not to permit the whole duties to devolve on a few.

OURSELVES AND THE FAIR.—We hope to take by the hand, at the Fair, many of our patrons—and such as have not already remitted their subscriptions, it is to be presumed, will not overlook the matter whilst here. It is a small affair, to each individual, but the aggregate amount is of great importance to us. Let no one, therefore, neglect this act of justice, and if they deem our journal worthy of it, let them induce some of their neighbors to subscribe for it, and bring on their names and money with them.

OUR PRIZES.—The plate for the largest lists of new subscribers to the Farmer, is now being manufactured, and will be presented at the time of the distribution of the Prizes of the State Society, viz:

For the largest list, a Silver Pitcher, valued at			$50.
"	2d largest do. a Goblet,	"	35.
"	3d " " "	"	25.
"	4th " " "	"	15.

For the 5th, 6th, 7th, 8th and 9th largest, agricultural implements will be awarded, which may be selected on the ground, or at any of the establishments in this city, or agricultural books at our office, of the respective values of $12, 10, 8, 5 and $3. The competition is open to the hour of the meeting of the State Society, on the evening of the 22d Oct. The plate will be of the most exquisite workmanship, and be a trophy worthy of handing down to the posterity of the successful competitors.

To Correspondents.—A "Subscriber of King George," and "A Seeker of Information," we will endeavor to attend to next month. The communication promised in our last, detailing the result of an experiment on the farm of the Hon. R. Johnson, will be found on another page.

We continue in this No. the able Essay of Mr. Ruffin on the subject of draining—and also present the paper from W. B. B. on the subject of renovating lands by sheep husbandry, which we hope will attract the consideration of the farmers of Maryland and Virginia.

DRAINING LANDS.—The article in our pages this month, demonstrating the advantages resulting from the draining of lands, is one full of interest to the great body of land owners, and we feel that we cannot too strongly recommend it to the attentive perusal of our friends. It comprises the concurring views of three distinguished agricultural writers, who have done much, and are still doing much, to elevate the character of those engaged in rural pursuits, and to throw the lights of science over their pathways.

STEAM ENGINE.—We learn that several steam engines, suitable for agricultural purposes, are likely to be present at our coming Show, from other States, to compete for the premium of $100 offered by the Society—Some of our Baltimore machinists are also preparing for the competition.

HAY PRESS.—We would be obliged to our cotemporaries in other States, if they would notice the offer of our Society for the steam engine—and also that a premium of $25 is offered for the best portable hay press.

STUMP EXTRACTOR.—We noticed in some paper (we think in one of Winchester, Va.) a description of a simple machine for removal of stumps—We hope it may be at our Fair—Although there is no premium offered for such a machine, yet we have no doubt that a liberal discretionary one would be granted it.

Mr. Patterson's Devons.—We are gratified in being able to state, that stalls have been engaged for 20 head from the beautiful herd of Devons of Geo. Patterson, Esq., of Carroll Co., at our Exhibition in Oct. Much disappointment was evinced last Fall, at their absence from the Show, and we are sure that this announcement will be received with great satisfaction—and that the admirers of fine cattle would be amply repaid for their visit to our city on the occasion, if it was alone to see this stock of Mr. P's.

THE MECHANICS' INSTITUTE FAIR.—During the Cattle Show, in Baltimore, on the 23d, 24th and 25th Oct., inst., the Exhibition of the Mechanics' Institute will also be open—and we would strenuously urge upon our friends who may visit the city, in attendance upon the former, not to neglect paying a visit to the latter. There will be one of the most interesting exhibitions of the Mechanic Arts ever held in the Middle States, and we will guarantee that no one who will give it his attention will regret the time spent in the examination of the beautiful and wonderful specimens of the arts which will be presented to him.

New Hardy Climber.—See Mr. Watson's advertisement. We will receive orders for the same, if left at our office.

☞Accommodations for servants in attendance on stock, will be furnished on the Show Grounds.

DRAINING TILE.—We have been endeavoring for several years past, to induce some of our brick makers to try their hand at making tile suitable for draining—but the great demand for building brick has prevented them from giving it attention. We have from time to time obtained such information as would give some idea of the practicability of securing so desirable an object as its manufacture in our neighborhood, and we are happy to announce that we have at length been enabled to accomplish it. In a recent visit to Chauncey P. Holcomb, Esq., of Delaware, he drew our attention to a call from a S. Carolina correspondent for information upon the subject—and informed us that he had some of the tile, manufactured by a late neighbor of his, Mr. Lovel, which were shown us. We found them more perfect than any which we had before seen, though we have specimens at our rooms, made in England, New York and Connecticut. In our last, Mr. Holcomb noticed this machine in a communication to the editor, and at the suggestion of Mr. Jno. Kettlewell, of this city, the publisher of the *Farmer*, in connexion with that gentleman, determined to endeavor to secure the machine, and the right therefor—all of which has been accomplished, and the tile are now being manufactured in this city—samples will be on exhibition at our office, and also at the Cattle Show. As Mr. Holcomb remarks, they are made similar to those most approved in England, and evidence can be adduced that Mr. Lovel was the inventor—or at least that he had no knowledge or information of a similar article being made elsewhere. We have felt much solicitude upon the subject of Draining Tile, and we flatter ourself that we have been enabled to accomplish a very important object in still further extending agricultural improvement. After the Fair, we shall take occasion to allude more particularly to the subject—in the meantime, those wishing to secure the Tile will forward their orders—the supply will be furnished in the order in which they are received. The present machine makes the tile 12 inches long, the diameter of the pipe 2¾ inches, and they can be furnished at $15 per thousand—arrangements will in a little time be made for pipe of a greater diameter.

EDITORIAL CONVENTION—The adjourned meeting of the Convention will be held on the 22nd of Oct. at 10 o clock, A. M. As the Agricultural Society's Hall will be occupied by the State Society, on that day, we have engaged the Hall of the Mechanics' Institute, over the Post Office, for the accommodation of our Editorial brethren.

☞ Those desirous of purchasing fine stock, &c. are referred to the advertisement of *A. Clement*, Esq. of Philadelphia—They may depend on having their wishes attended to.—We hope and expect to see Mr. C. with us as usual, at our next exhibition—His public spirit has added much to the interest of those which have heretofore taken place

Register Wheat—Mr S. Register has some of the wheat noticed by us last year, which upon comparison with that sent us by Mr. Coad, appears to be of the same variety—Mr. Register informs us that he realized at the rate of 43½ bushels to the acre, at the last harvest—He sells it for seed at $2 per bushel.

Imported Fruit Trees—Those wishing to obtain superior varieties of Fruit Trees, are referred to the advertisement of Mr. Cairns.

FINE SHEEP—Messrs. Henry Carroll and Wm. Jessup, of Balt. Co. have recently paid a visit to Mr. Reybold, of Delaware, and selected for breeders from his flock, some of his New Oxfordshires—two bucks, and six ewes—On their way to their future home, we had an opportunity of examining these fine animals, and can but congratulate the public spirited gentlemen upon their success in securing such superior stock—Although they have purchased at a high figure, they will, no doubt, find their profit in it. One of the ewes, shortly after reaching home, was killed by the dogs; the owner, however, had taken the precaution to have his sheep insured, in the new Live Stock Insurance Co. recently established in this city.

A LARGE EGG.—Mr. D. Cumming, of Prospect, Baltimore Co., has left with us a hen's egg, which is 6½ by nearly 8 inches in circumference—and asks if we have ever seen one so large. It is certainly "hard to beat," but still we think we were favored with several, some time since, from our young friend W. B. Dobbin, of Elk Ridge, which were equally as large. It is no doubt a double yolked egg.

EXTRAORDINARY YIELD.—*Ninety-eight* stalks of wheat were produced from *one grain*, on the farm of O. N. Bryan, Esq., in Charles Co., on the banks of the Potomac River. We hope Mr. B. has preserved these stalks to bring to our Fall Show.

SOWING PARSNIP SEED IN THE FALL.—A paragraph is going the rounds, advising the sowing of parsnip seed in the fall. We have never tried the plan, but from our experience in sowing *carrot* seed at that season, we do not believe it will answer. In the fall of 1837 we sowed a bed of carrots; the seed came up well, the plants grew finely, and withstood the winter without injury; but in the ensuing *spring*, instead of forming roots, *they run up to seed*, and such we are inclined to think would be the result of an experiment in sowing parsnip seed in the fall.

While we have pen in hand, we will say that we tried the efficacy of the *recipe*, which has been going through the papers for two seasons, of preserving fresh meat from taint by covering it with corn meal, and found it *utterly worthless*.

BEDDING OF HORSES.—A plentiful bed of clean, dry straw, says *Mason*, affords to a fatigued or travelling horse as great a welcome as his food, and is as necessary in a stable as the pitchfork, curry-comb and brush.

NEW YORK STATE FAIR.—The Fair of the N. Y. State Society, which was held at Albany the first week in September, is represented to have been more numerously attended than any which had preceded it—and the display of Stock, Implements, &c. has never been surpassed, in point of excellence and extent.

The Montgomery Co. (Md.) Exhibition was also very successful. The Cattle exhibited were principally Devons, and we hope that the owners of this beautiful breed will exhibit them at our State Fair. They are in much demand, and no doubt those having superior animals would obtain good prices for them, if disposed to sell.

Bone Dust—The high price and scarcity of guano, has created so great a demand for bone dust, that our manufacturers have not been able to obtain a sufficient quantity of the raw material to supply the demand—Farmers should encourage the gathering of bones, and either crush them themselves, or send them to the mills to exchange them for the bone dust; $12 to $13 per ton is paid for bones, by the manufacturers.

THE FOTATO ROT.—We regret to have to announce that the Potato Rot has made its appearance in various parts of the country, and from the representations made in regard to it, it is likely to prove more destructive than was ever before known. Throughout the New England States the damage has been very great, and the price of potatoes has consequently been very much enhanced. From the Western States we are also receiving similar accounts, and in our own immediate neighborhood many of our farmers have had their crops entirely destroyed. The damage appears to have commenced shortly after the storm which was experienced about a month ago. Those who have been so fortunate as to escape this calamity, will no doubt realise good prices for their crops.

GATHERING AND KEEPING APPLES.—Buist, who is an experienced horticulturist, says:—"Hand-picking is undoubtedly the best way of collecting the fruit, whether for family use or the market. Early fruits should be handled very carefully. Winter fruit may remain on the tree till the approach of frost, when they should be collected, and those for sale put into good barrels at once, to be conveyed to market when required. Those intended for family use should be placed in a dry shed for two weeks, and then carefully wiped with a cloth, and put away in a dry cellar, free from frost. Those that are required to keep till May and June should be packed in dry sand, or some other material to exclude them from the air."

CHOLERA CURE.—The Memphis Appeal says it has the most reliable information that a gentleman in that vicinity, who had the treatment of between twenty and thirty cases of Cholera, *was successful in every one of them*, by using the prescription recommended by the captain of the *Silas Wright*, viz: a tablespoonful of salt and a teaspoonful of red pepper, in half a pint of hot water.

We are indebted to *Allen W. Dodge*, Esq., Secretary of the Agricultural Society of Essex County, Massachusetts, for a copy of the *Transactions* of that time-honored association, for 1849. We read them, as we always do, with pleasure and profit. Among the oldest associations in the country, it seems to gain strength with age, and to manifest renewed zeal at all its anniversaries. Its *addresses* and *reports* are always characterized by good taste and sterling sense, while its exhibitions give the most pleasing evidences that a generous spirit of improvement animates its members. The last was its 30th anniversary.

MT. AIRY AGRICULTURAL INSTITUTE.

To the Editor of the American Farmer.

The writer of this having had occasion to visit Mt. Airy in July last (not as a patron) is of opinion from observation made on the spot, on witnessing the out of door exercises in particular, that the advantages of such schools should be better understood. The manner in which the lads from old Virginia handled the farm implements, regardless of rain or sunshine, was quite remarkable and amusing, and proved that active, spirited, cheerful labor was not confined to the North. The habit of industry, and the knowledge of farming, and the keeping of farm accounts (to say nothing of the sciences) acquired under the tuition of professor Wilkinson, who is an active companion in every exercise, must be of lasting benefit on their return home, not only to the students themselves, but to the community within reach of their influence.

H.

OUR AGRICULTURAL IMPLEMENT MAKERS.

As the thousands of farmers and planters who will be in our city at the coming Exhibition of our State Agricultural Society, are directly interested in the subject, we deem it but proper to draw their attention to the several establishments in our city for the manufacture of Agricultural Implements and Machinery. Great as has been the increase of the general trade of Baltimore, perhaps no other branch of business has made more rapid strides than this—and we would urge our friends, in their visit to our city, to avail themselves of the opportunity of visiting the several establishments. Their gentlemanly proprietors will, we can promise them, take pleasure in showing them everything which they may deem of interest.

Mr. *C. H. Drury*, Hollingsworth street, near Pratt, we are gratified to perceive, is "going ahead" most rapidly, in his endeavors to supply the increasing demand on him for implements and machinery. He has recently constructed a very extensive manufactory in the south-western section of the city, and is thus enabled to meet the orders of his numerous friends for the various Agricultural Implements and Machinery manufactured by him. We cordially wish him "God speed" in his labors, and have no doubt that ample rewards will flow unto him for his assiduous endeavors to render satisfaction to his customers.

Messrs. *Murray & Clarke*, York street, head of the basin, are, as usual, busily engaged in furnishing farmers with their Horse Powers, Threshers, Shellers, Crushers, Grist Mills, &c. The senior partner has obtained a high character as a millwright, and for his ingenuity as a machinist, and the value of his workmanship has been well tested by many a farmer of our own and neighboring States, and also of the good old North State, where they have a branch of their business established under the charge of the junior, at Elizabeth City. Those wanting strong and faithfully built machinery, will, we believe, not be disappointed in anything obtained from our friends Murray & Clarke.

Mr. *A. G. Mott*, at the old stand in Ensor street, near the Bel-Air Market, continues on in the even tenor of his way, supplying the farmers of Baltimore and Harford, as well as the more distant counties of our own, and the neighboring States, with Plows, Fans, Straw Cutters, Harrows, &c. Although not making as great a display as some of his neighbors, yet this may not be the more disadvantageous to his customers, as he is enabled to have a personal eye to the operations of his snug little establishment, and to see that all things are properly put together. Let the farmers not overlook his claims to their patronage.

Messrs. Hambleton & Didier, (successors to the late firm of Maxfield, Mott & Co.) it will be seen by the advertisement, have taken a stand at No. 57 S. Calvert and Cheapside sts. for the better accommodation of their friends of the tide water regions—Their manufactory will be continued as heretofore, in Paca street—this is another gratifying evidence of the increase of the business of our Agriculural Implement makers, and we are rejoiced to find that these enterprising young men are determined to push ahead in the race for superiority—The field is a wide and clear one, and the competition thus brought about, cannot fail to benefit the Agricultural community—Success to them, and to all who aim to serve faithfully the *great* interest of our country, for the prosperity of which are our constant, most earnest, aspirations offered up.

Messrs. Cottingham & Willett, on Grant and Ellicott sts. next to Pratt st. wharf, and on Pratt near Eutaw St. have recently enlarged and fitted up their establishment for a more extensive manufacture and sale of Agricultural Implements,—and have very wisely taken the precaution to let their "light shine" through the columns of the *Farmer*—for the first time since their establishment, we believe, which is a good sign, that they are wide awake to the improvements of the age—for a manufacturer of agricultural implements in these "diggins" to "hide his light under a bushel," or which is the same thing, not to place it on the candlestick of the pages of the *American Farmer*, would certainly be behind the times—We invite our friends in visiting the city, to call upon these gentlemen; we will vouch for it, that they will receive a courteous greeting, and have every facility offered them of examining the numerous and substantially built Implements on sale, and no doubt on as good terms as they can be had elsewhere.

Mr. *Geo. Page*, whose fame as a mechanic is coextensive with the limits of our own country, and who, no doubt, if in attendance at the great world's Exhibition, to be held in London in May next, will astonish *John Bull* and his neighbors, is, as usual, turning out pretty rapidly his celebrated Saw Mills, Horse Powers, Grist Mills, Crushers, &c. The rage for Plank Roads, of late, has made a greatly increased demand for his saw mills, for which, we should suppose, they are most admirably adapted, the facility of transporting them from place to place being so great.—Mr. Page keeps a large number of hands employed in his establishment, and his manufactures add much to the wealth and prosperity of our city.—We should like to see one of his mills at our coming Fair.

Messrs. *Sinclair & Co.* who are at the head of the oldest establishment in the city, have very materially enlarged their borders of late, by the erection of an immense structure adjoining their old stand, in Light, near Pratt street—These gentlemen have been long and favorably known to the farmers and planters of the United States; their establishment is probably not excelled by any other in the Union for the extent and variety of its productions.—We hope they may long live to enjoy the fruits of their untiring labors for the accommodation of our farmer friends, and be still adding new laurels to the fame which they have acquired on many a well tilled field.

Our friends from other States who may visit them, will probably be surprised at the extent of their establishment, and the great variety embraced therein. Everything that the farmer or planter may require, be it small or great, can here be had. Their catalogue, recently published, describes the various implements and seeds made and sold by them, and the prices thereof.

Mr. E. Whitman, Jr., of this city, has just published a new and more extensive Catalogue than any which has preceded it, containing 120 octavo pages, embracing "a brief description of, and the uses for which the many labor-saving implements and machines are intended," with engravings of

most of them, prices of the various sizes, &c. The Catalogue also includes a full description of the various garden and field seeds, fruit trees, &c. with the prices of each—together with numerous hints and suggestions of value to the farmer, planter and horticulturist. The great increase in his business has induced Mr. Whitman considerably to increase his facilities for manufacturing and exhibiting his stock. In addition to the very extensive premises formerly occupied by Mr. Eastman as a manufactory, he has considerably enlarged his quarters for the exhibition and sale of his manufactures—and his enterprise has resulted in building up for himself, in a few years, an establishment which is doing, we hope, much for his own, as well as for the prosperity of our city and State.

The evidences of prosperity which is visible in all the Implement manufactories of this city, are extremely gratifying, as they evince in the clearest light, that those for whom they labor have increased resources for the purchase of their implements and machinery, and, of consequence, are themselves enjoying prosperity. "*Speed the Plow.*"

GOVERNMENT ACTION ON THE MONOPOLY OF GUANO.

We are indebted to Hon. Senator *Pearce*, of this State, for a copy of the *correspondence* which has taken place between our government and the representative of the government of Peru, at Washington, upon the subject of the guano monopoly. By the reply of the latter, we are pleased to find, that he received the inquiries and suggestions of our Secretary of State, in a kindly spirit; and from the tenor of his remarks we are disposed to think, that the Peruvian government are anxious to extend its sales wherever a market can be found for their guano. In one part of the Peruvian minister's letter, he says, that when he "*left Peru, the government had expressed a desire that proposals might be made to it for supplying the United States with guano.*"

There has been a misapprehension upon this subject, with regard to the course taken by our government in the premises, and as that misapprehension has been twice repeated in communications through our columns, we feel called upon by a sense of justice to say, that the action of the late Secretary of State was prompt and becoming, evincive of a sincere desire to subserve the interests of the agricultural community, and that he asked for *all* that could be asked for, by one independent government of another.

From the present aspect of affairs, we could, if we dared, hope, that the prospective transfer of supply from British to American merchants, would have the effect to reduce the price in subsequent years; but from our knowledge of men and things, we are fearful that such effects will depend upon the contingency, whether the contracts to be entered into, shall fall into a few or many hands; for speculators are speculators the world over.

The movement of the United States' Senate in the premises, was made on the 10th of June last, and it will be seen by the date of Mr. Clayton's instructions to our minister at Lima, that our late Secretary of State had *anticipated* that action forty five days.

On the 26th *of April last*, Mr. Clayton addressed a letter to the Hon. John Randolph Clay, United States minister at Lima, "suggesting to him the expediency of endeavoring to bring about an abolition of the monopoly of the export of guano from Peru, which is now enjoyed by British subjects." "The measure," says Mr. Clayton, "is certainly a very desirable one for us, and no doubt can be entertained that the Peruvian government would derive a far greater revenue if all nations were allowed to export the article upon the payment of a moderate duty. You will accordingly present this view of the subject to the Peruvian minister for Foreign Affairs in such a manner as in your judgment will be best calculated to effect the object desired, and will endeavor by all proper means, to prevent the formation of any new contract by that government with the citizens or subjects of other nations, which may tend to enhance the price of the article to the consumer, or prevent vessels of the United States from carrying it to other parts of the world, upon the same terms which may be accorded to the vessels of any other nation."

Impressed with the importance of the subject to the interests of American Agriculturists, and with the view of possessing himself of reliable information, on the 17th of *June last*, Mr. *Clayton* addressed a letter to the Peruvian Minister at Washington, Senor *Don Jose Manuel Tirado*, enquiring of him "whether restrictions exist upon the export of guano from Peru to the United States; and, if so, what the nature of those restrictions may be,"—and "whether the high price of guano in the United States resulted from the fiscal regulations of the Peruvian government." Suggesting at the same time, that:—"there can be no doubt that if the guano of your country could be brought to the United States at a *moderate* advance upon the shipping charges from the places of its deposite, the consumption of it would speedily increase to an extent which, at a low price to your government as the owner of the deposites, would in the aggregate pay a far more considerable sum than it would receive if the original price were high, and if this were augmented by other impediments to the exportation of the article from Peru. It is certain, also, that a free trade in guano between the United States and Peru would materially strengthen the good understanding between the two countries. I indulge the hope, therefore, that your government may take the same view of the matter, and as soon as it can compatibly with its honor, will endeavor to *cast off any shackles* which may now be imposed upon that trade, and to prevent their imposition at any future time."

The inquiries and suggestions of Mr. *Clayton*, were received in the most friendly spirit by the *Peruvian minister*, who, in reply, among other things says:—

"The Peruvian government, in leasing out its right and interests, as a proprietor of the article, adopted the only system that was supposed likely to create a demand for guano; while on the other side, it was bound to leave the consignment as security, in the hands of those persons who had hazarded their capital in meeting the heavy expenses attending the process of freighting, and in making the advances which were required to facilitate the exportation and construct the depots. Far from establishing a selfish monopoly, which would have proved injurious to its own interests, or fix a high, deliberate, and conventional price upon the article,

it has only aimed to secure a net profit, reduced to the lowest possible standard, exceeding very little the actual amount of expenses; and there have been accounts of sales rendered exhibiting both los and damage."

"The guano, therefore, is *not* monopolized; the government as the proprietor, has forwarded it, on its own responsibility, to those markets where it was in demand, selecting as consignees, as it was natural and proper it should do, those persons or houses who have advanced the capital necessary to defray the expenses; and, as these are much greater in all cases of remittances to England, and it follows that the sale of the article in this country is at the rate of ten pounds sterling per ton, the net profit has been less than what is realized in the United States, where the farmers obtain it at lesser prices. Nor has my government imposed any restrictions, duties, or determinate value on the exportation of guano, although it might and could do so with perfect propriety, because such action would have militated to the detriment of its own interests as the proprietor of the article. Its object has been to send it to those markets where it was in demand; because, as it had not yet become an object of decided and positive interest to the consuming world, and there being no certainty of its attaining saleable prices, to create a market it was impossible to send to Peru for supplies, with any prospect of even moderate profit. Happily, however, as the time approaches for the final liquidation of the mortgage consequent upon the disbursements and advances, which have hitherto controlled the sale of guano in other parts of the world, I flatter myself with the hope, that as your excellency desires it, the day is not very far when the United States, as well as the rest of the world will be supplied with guano through the government of Peru directly—said guano being sold in Peruvian ports to those that go there in search of it, or a moderate duty being imposed upon the exportation of the same; and so well settled is this purpose—calculated as the design is, to make the interests of the agricultural world harmonize with those of the country where the article is found—that in the arrangement made last year for periodical payments of the loans raised in London, by *Peru*, to defray the expenses of her war for independence, the government would not listen to the solicitations of the holders of the bonds, who proposed receiving payment in the same way as the consignees of the guano, by taking half the clear receipts of this article, being disposed to assume all responsibility; said governmant declaring positively that it *would not be understood*, by that clause as binding itself to sell guano through the medium of consignments, and by remitting to the markets where it was in demand, because as I am instructed, its views are materially to enlarge the sphere of consumption, by enabling consumers to buy it at the lowest possible rates of price, and by placing itself in a condition to supply the demands of those who come there in search of it, affording them every facility for obtaining it, such as your excellency has intimated in your note, being the truest mode of subserving its own interests."

Senor *Tirado* further inquires of Mr. Clayton: "Whether it would be consistent with the interests of agricultural districts of the United States for them to supply, through their agricultural Societies, the government of Peru with a list of the places where, while the guano continues to be exported on its own account, it would be convenient to establish depots, which until now, as I understand, have been confined to New York and Baltimore; of the quantity which it would be necessary to keep on hand periodically, at the aforesaid depots, in order that the consumer may be constantly supplied with ease and certainty; and any other circumstances which may tend to develope the exigences of the demand, and place within closer reach of said consumers all the facilities for making an advantageous use of the manure."

Senor Tirado, volunteers his services to communicate any such information to his government,—he states also that "when he left Peru the government had expressed a desire that proposals might be made to it for supplying the United States with guano—an American house established at Lima, being among those who have made proposals for entering into a contract in relation to the subject, which would find no difficulty in taking up such proposals, conjointly with others that might be made, either directly or through my agency, from other firms or mercantile, or *agricultural associations in this country*, as private contractors, in the event of a suitable arrangement."

Thus stands this highly important matter at the present moment; and we trust that the "*Agricultural Associations*" will avail themselves of the suggestion of Mr. *Tirado*, and thereby save themselves from the onerous effects of commission and profits which accrue to the intermediate hands through which, in the present state of the trade, the guano now passes.

It will be seen by the following correspondence, between the Chairman of the Committee of the Maryland State Agricultural Society, and the Hon. Mr. Clayton, that the action of our government was facilitated by the interference of our State Society—The views urged upon the Peruvian minister by Mr. Clayton, embody the objects which the Society and the farmers desire to accomplish, and we are assured that the subject will not be permitted to sleep—the present Secretary of State, the Hon. Daniel Webster, evinced a strong interest in the matter, at the time it was introduced into the Senate by Mr. Pratt of this State, and we feel confident that he will not fail to use all the means at his disposal, to bring about the result so much desired.

We have been informed by Mr. WALSH, the Chairman of the Committee appointed by the *Maryland State Agricultural Society*, that he had an interview with his excellency, Mr. Fillmore, the president, upon the subject, by whom he was assured of the sincere desire of the government to carry out the views of the Society, believing the agricultural interests were deeply concerned in the guano trade being placed on a liberal footing, so that the demand in the United States may be supplied at moderate prices.

In the discharge of the duties confided to Mr. Walsh and his associates on the committee, these gentlemen have been unremitting in their vigilance, and have fulfilled their trust in a way that cannot fail to commend them to the agricultural community.

Mr J. C. Walsh to Mr. Clayton.

NATIONAL HOTEL,
Washington, May 30, 1850.

SIR: The State Agricultural Society of Maryland, ever mindful of the interests of that portion of the community which it represents, has honored

the undersigned by appointing him chairman of a committee of its body, constituted for the purpose of calling the attention of the national Executive to the importance of opening a negotiation with the Peruvian government in regard to the trade in guano, so that whatever restrictions which at present exist, preventing our citizens from having the same facilities and privileges for its procurement as those of any other nation, may be removed.

In approaching you upon the subject, and asking for it, in behalf of the Maryland State Agricultural Society, your favorable consideration, the undersigned deems it entirely unnecessary to urge any arguments in its favor, being aware, from the interest which you have always evinced for the agriculture of the country, that you are well apprized of the great advantages which would result from the importation of guano into this country being as untrammelled as possible, from the fact of its being conceded by all, that it is one of the most powerful agents now used for the renovation and improvement of our worn out soils, which has been conclusively proved by its extensive use, more particularly in the States of Delaware, Maryland, and Virginia.

With great respect, your obedient servant,
JNO. CARROLL WALSH.

Hon. JOHN M. CLAYTON, *Secretary of State.*

Mr. Clayton to Mr. Walsh.

DEPARTMENT OF STATE,
Washington, June 5, 1850.

SIR: I have to acknowledge the receipt of your letter of the 30th ultimo, suggesting, on behalf of the Agricultural Society of Maryland, the expediency of negotiations with the government of Peru for the purpose of removing any restrictions which might now exist upon the exportation of Peruvian guano to the United States, from the places of its deposite on or near the coast of the republic.

In reply, I have to inform you that steps have some time since been taken by this department for accomplishing the object referred to, and you may be assured that it will receive any attention which may be necessary for a successful result. It is apprehended, however, that a principal item in the high cost of Peruvian guano in this country, is the freight by the long and perilous passage round Cape Horn. This must remain as a burden upon the consumers of the article in the United States, until an inter-oceanic communication across the isthmus which joins North and South America shall be in successful operation. In directing the foreign policy of the government so as to bring about that communication in a short time and upon a secure footing, the President by no means lost sight of the advantages which the agriculturists of the Atlantic States of the Union will be sure thereby to gain, especially in the cheapening of guano, which is, perhaps, indispensable to a profitable cultivation of the soil in portions of many of those States.

I am, sir, very respectfully, your obt. svt.
JOHN M. CLAYTON.

TO JOHN CARROLL WALSH, Esq., *Washington.*

☞ Since the preceding was prepared, we have been favored with the following interesting statement upon this subject, from a gentleman, to whom we, and the agricultural public generally, are much indebted for former contributions to the general stock of information, calculated to advance the improvement of the soil.—We prefer to give the paper as we received it, without touching it with the "pen editorial," as we are satisfied, (and we speak it in all sincerity, and without the least intention of flattery,) that the signature affixed to it, will more readily attract attention to the facts contained in it, than if they had been presented as coming from our own pen. The minute information which is here given, will be the means, we hope, of inducing our government to press forward the claims of our agriculturists and the interests of our commercial marine, in order to rid us of the obnoxious monopoly of this trade.

HAREWOOD, 9th mo. 17th, 1850.

To the Editor of the American Farmer—

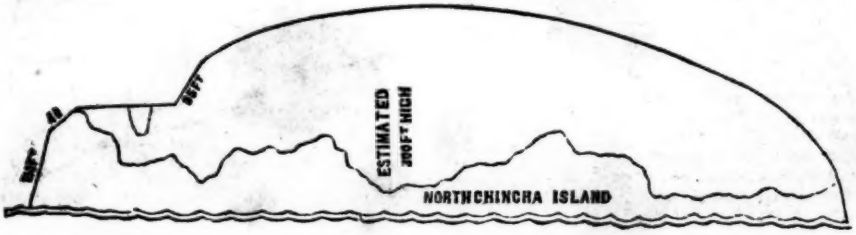
Enclosed is a check for the annexed list of sixteen subscribers—advance payment for the current volume of the Farmer.

As considerable interest is felt at the present moment with regard to the limited supply, and high price of Guano, I may add, that an accidental meeting with a very intelligent Sea Captain, who has recently returned with a cargo from the Chincha Islands, induced me to make some enquiry as to its location, and probable supply to meet future demands. Being interested in his communication, I will as requested briefly give the substance of his remarks, as near as recollected—not for publication, unless considered of sufficient interest to claim the time and attention of the "pen editorial;" to that mode I have no objection.

The Chincha Islands are three in number; not remote from each other, or differing very materially in size or general features. The Geological formation presents the appearance of masses of rock irregularly jutting out above the surface of the ocean:—and occasionally rising nearly perpendicularly to a height of from 50 to 100 feet. At a distance, the Islands present to the eye a somewhat conical form; owing probably to the greater deposites of guano in the centre; and all appear equally rich in the deposits.

The "North Island," from which this cargo came, was estimated to be about 300 feet at its greatest elevation; it is about 1½ miles in length, and from ½ to ¾ of a mile average width. In sailing round them, the guano appears in many places to extend to the water's edge.

Annexed is a copy of the diagram made by him, to show the general appearance of the Island,



mode of loading, &c. They are uninhabited, except by the sea fowl, which resort there in myriads (for rest, and perhaps for incubation,) and whose excrementitious deposits—forming guano—has for ages been thus accumulating. The vessel was moored within a few yards of a rock, nearly masthead high; and by means of a simple fixture constructed of cane, into which it is thrown as dug, (being so compact that picks are required to loosen it) it is conveyed through a canvass shute or tube, directly into the hold of the vessel;—consequently the labour of loading is light; and by employing some natives of the coast, several hundred tons could be put aboard in 24 to 36 hours. The "trimming," i. e., spreading in the hold, is the most unpleasant part of the work. The Guano is cut down in layers, or in *steps*, as it recedes from the point of embarkation, and has been removed to a depth of about 85 feet only.

On the query, as to how long before the supply would be exhausted, his reply was, "all the commerce of the world would not exhaust it on these Islands alone, in one hundred years." Wells or pits —as indicated by the dotted lines, have been sunk to determine the extent of the deposits; but as yet have not "touched bottom;" and it is supposed the mass in some places is not less than from one to two hundred feet thick.

From the above information,—(to be relied on I have no doubt; it also corresponds with what has been furnished me by another visiter, though less minute and exact in the details) the question naturally presents, how is it, with such an almost inexhaustable supply, and facility of removal, the article cannot be obtained at less price?

The reason is obvious to my mind; and from all I can learn, the business appears to be thus arranged. The Peruvian Government,—as all know, who know anything of the often unsettled condition of South American affairs, is generally, if not always in want of funds. To obtain this, and in advance, a monopoly in the guano trade is granted to one or two rich Houses in England. They also have the entire control of the trade in this country; and furnish just such a supply as is supposed, will command their own prices. The Agent in this country, as is understood, has no controul over the price, beyond a certain point, *downwards*. In other words, the price is fixed in England; and if the article will not command a given sum here, the market is unsupplied.

I did not expect when first referring to the subject, thus minutely to enter into the merits of the case; but we will pursue it a shade further, if merely speculative in its bearing.

Odious and grinding as monopolies usually become, and hard as this one seems to bear upon the Agriculturist's interest, it still appears to be about as fair as ordinary mercantile transactions.

The Peruvians may be considered the *producers*; and like our farmers and planters may at times require advances from the commission merchant: and, in proportion to the prices obtained, are his profits increased; nor does any one censure the merchant for selling at the highest price he can. Now this English House, with ample means and credit, is willing to make similar advances;—(not, it is presumed, for the benefit of the Peruvians, any more than are those of the city factor for the *exclusive* benefit of the tiller of the soil)—and relying on the sale of Guano for re-imbursement, and also for its profits, including perhaps, a small, but stipulated sum, to be paid for each ton, or cargo to be sold.

Dealers, or Speculators, if you please, are always censured for raising the price of Guano. Is not the same thing done every day, and every hour in the day, by the purchase and sale of flour, wheat, corn, and tobacco?—and is not the price of almost every article of commerce, regulated in a great degree by the supply and demand? most certainly; and so long as there is a probability of profit by the purchase and sale of this article, and just so long, and no longer, will the "trade in second hands" continue. The present supply, and the probable increase this season, is inadequate to the demand; and by an almost undeviating rule in commerce, the price is enhanced, until at a point to drive the consumer from the market. This however, is not quite so soon attained with Guano, under the present excitement, as with many other things.

I have viewed this matter in a different light from some others,—though erroneous as some may suppose; and do not think that censuring the Dealers, will cover the true ground of complaint, or at all tend to remove the existing difficulty. Their agency is, if I may use the term,—but in no offensive sense,—a kind of "necessary evil;" for the importer will not retail, and it suits but few of the consumers comparatively, to club together, and purchase in large quantities.

The high price of Guano is owing mainly, if not entirely to this monopoly in the import trade; and it would be the same thing, and a monopoly still, whether in the hands of English or American merchants; with also, about the same amount of liberality to be looked for, from one, as from the other.

If our Government—and it alone, can most probably accomplish it—can effect some arrangement with the Peruvians, by which the trade may be thrown open to our citizens, the price would soon be more uniform, if not considerably reduced; and a fair competition in the market, would most likely soon reduce the price of freight also. It would certainly be to the interest of the Peruvian Government to sell annually eight or ten times the present amount, even though at a somewhat reduced price; and that this could be readily effected if at less cost, no one doubts who is at all familiar with the merits of the case. Concert of action on the part of Agricultural Societies, and influential individuals, might tend to hasten the change, if it did not also add strength to the appeal; and to show the Peruvians in what their true interest consists. With kind regard, I am, &c.

EDWARD STABLER.

FINE PEACHES.—The peach crop this season has been very plentiful, but the quality has been inferior, being of a very acid flavor. We received some specimens, however, from S. Smith, Esq., of Raleigh, N. C., and N. T. Green, Esq., of Danville, Va., which were uncommonly fine—very large and luscious. The latter gentleman offers to forward us some of the seed, which offer we accept, if it is a seedling. We think it fully equal, if not superior to any peach grown in this State.

Mississippi State Agricultural Chemist.—Dr. Millington, formerly Professor of Chemistry and Natural Philosophy in William and Mary College, Va., and now holding the same chairs in the University of Mississippi, has recently been appointed Geologist and Agricultural Chemist to the State of Mississippi.

Report of Dr. James Higgins,

STATE AGRICULTURAL CHEMIST.

[CONTINUED FROM PAGE 100.]

RED AND YELLOW CLAY SOILS.

By this term I include all those soils, having for their bases, red and yellow clay. The surface soil depends very much for its color, on the quantity of vegetable matter in it. Sometimes it is filled with coarse gravel, sometimes it is a fine dark grey sand, frequently of a light reddish color, owing to the presence of per oxide of iron, and very often the surface soil has nothing by which it can be so described as to be recognized. The sub-soil is, however, always characteristic, being a red or yellow clay, similar to that from which bricks are made. The clay differs in color from a bright brick red, in Cecil, to a pale fawn color, in Worcester county. The transition in color is gradual, from Cecil to the southern parts of the shore, becoming less red by almost insensible degrees, a fact due to the diminution in quantity of the iron. These clays, also, are less strong as we proceed downwards; that is, they contain a less quantity of pure clay.

The surface soils over these clays are deficient in alumina and peroxide of iron, in lime, magnesia, and the phosphates. The first two can be supplied by deep ploughing.

The red and yellow clay sub-soils contain from eight and a half, to as much as twenty bushels of lime per acre, for every inch in depth. Hence, on these soils, with every inch of clay which is turned up, from eight and a half to twenty-five bushels of lime is brought into action. Besides this, they also contain magnesia, and sometimes potash. If there was no other reason but this, it would be sufficient to induce deep cultivation on the red and clay lands, which will, also, partially supply the latter deficiencies. The composition of these soils points out the manures best adapted for them. These are the Schuylkill, Wrightsville, or New York lime, and bone dust, or guano. Lime, devoid of magnesia, will increase the growth of crops on these soils, yet it will never act as well as those which contain it, because, by the latter, both lime and magnesia, two deficiencies instead of one are supplied.

They should be ploughed deep, but not more than two inches of the clay should be turned up in one rotation. This should be done in the fall, that it may be subject to the action of the winter's frost, and to the influence of the weather for a long time.

For the reason that these soils differ very much as to the quantity of their necessary constituents, and of course in the quantity of the manures which should be applied, I have not given any of their analyses in this report.

Those which I made have been given to the owners of the soil, and the necessary manures, both as to kind and quality indicated at the same time.

I have, moreover, given all the information which I possess in regard to them, to their owners, through conversations and lectures. At present, gypsum would act well on these soils—when, however, they have a large admixture of the peroxide of iron and alumina, by means of deep ploughing, the benefits of this will be questionable.

The rules which I have laid down, aided by observations of the effects of the specified manure, will aid greatly in their successful cultivation. These lands, from the facility with which they are improved, are very valuable. Though at present they may be cheaply purchased, yet, in a few years, when their worth becomes better known, they will command a very high price. Indeed, at present, they are rapidly increasing in value.

BLACK GUM SWAMP SOILS.

These are characterised by their black color, light porous texture, and the large quantity of vegetable matter which they contain. They are very productive in corn, but wheat does not flourish on them, owing to their porous texture. This class of soils is most generally found in bottom lands, and when at all moist, should be drained.

The best application for them, is unslaked magnesian lime, for even when a fair proportion of lime is found on analysis, yet lime will act on them, as the substances necessary for plants are held by the vegetable matter, which cannot be yielded until it is decomposed: quick lime effects this very readily, and should be applied for every rotation, as long as a large quantity of vegetable matter can be recognised. From twenty to forty bushels applied every year, will ensure for a number of years, *very* large crops of corn, and, when the texture of the soil will allow, large crops of wheat will be produced These soils are generally quite fertile, bearing from four to eight barrels of corn every year for a great number of years.

When quick lime cannot be procured, water-slaked lime should be used. Air-slaked lime will benefit them but very slightly, and common earth of any kind, by rendering them more compact, will also act beneficially on these soils.

Specimen from Fourth Election District, Worcester county, Md., thoroughly dried, was composed as follows, of—

Vegetable matter,	41.70
Silica, (sand,)	53.80
Iron as perxodie,	.40
Alumina, (pure clay,)	3.50
Iron and alumina, as phosphates,	.08
Lime,	.20
Magnesia,	.21
Potash and soda,	.10
Sulphuric acid and chlorine, (a trace.)	

This soil produces from thirty to forty bushels of corn every year.

Specimens from the long marsh in Caroline, and the Beaver Dam in Queen Anne's county, showed a composition nearly similar to the above, except in having a larger quantity of iron and alumina as phosphates, from .2 (two-tenths) to .45 (four and a half tenths of one per cent.)

Specimen from near Newtown, Worcester co. Md.

Vegetable matter,	44.00
Silica, (sand,)	53.00
Iron,	.81
Alumina, (pure clay,)	1.00
Iron and alumina, as phosphates,	.15
Lime,	.30
Magnesia,	.25
Potash and soda,	.04
Sulphuric acid,	.002
Chlorine,	.006

This soil produces from thirty to forty bushels of corn every year—no wheat.

Specimen from Worcester county, Md., from near Derickson Cross Roads, being fully dried, was composed as follows, of—

Vegetable matter,	35.00
Silica, (sand,)	60.00
Iron, as peroxide,	1.00
Alumina, (pure clay,)	2.60

Iron and alumina, as phosphates,	.16
Lime,	.35
Magnesia,	.24
Potash and soda,	.15
Sulphuric acid,	.009

Chlorine, not estimated, but sufficient.

This soil produces from fifty to sixty bushels of Indian corn every year—wheat does not thrive on it.

Specimen from Somerset county—

Vegetable matter,	42.60
Silica, (sand,)	53.20
Iron, as per oxide,	.61
Alumina, (pure clay,)	2.70
Iron and alumina, as phosphates,	.13
Lime,	.21
Magnesia,	.20
Potash and soda,	.15

Sulphuric acid and chlorine not estimated quantitatively, but sufficient.

This soil produces from thirty to forty bushels of corn every year—no wheat.

EXPERIMENT ON THE FARM OF HON. R. JOHNSON.

To the Editor of the American Farmer:—

DEAR SIR:—Some time ago I promised to furnish you for publication in your valuable paper, a statement of *facts*, in relation to an experiment made upon the farm of the Hon. Reverdy Johnson. Protracted and severe indisposition has prevented me from sooner complying with my promise.

I shall not trouble you with a disquisition upon the particular theory of manuring the truth of which this experiment was designed to establish. It is the Theory of Liebig, familiar to all intelligent farmers.

Several excellent writers and intelligent agriculturists, have attempted both in Europe, and the United States, to overthrow this Theory; arguments have been used for this purpose, the force of which I have been unable to appreciate, and experiments made, the accuracy of which, I am compelled to think at least questionable.

My sole object in making the experiment in question, was to ascertain facts, and my purpose now is to submit these facts, through the medium of your paper, to the consideration of those who are more capable than myself, of deducing from them true and reliable principles for the application of manures. About thirteen months ago Mr. Johnson, acquired the farm upon which this experiment was made, situated about 2½ miles west of Baltimore. Believing the land susceptible of improvement, and desirous to effect his object by any reasonable outlay of money, he sought information from several persons, as to the best mode of doing it. I was one of those consulted. I explained to him the Theory of Liebig, and urged its adoption, by such arguments and illustrations, as occurred to me at the time; his consent was easily obtained, to an experimental test of this Theory upon a part of a field, then about to be laid down to wheat.

The Farm contains 300 acres, 200 of which are cleared. The land originally good, had been utterly impoverished, by a long course of bad husbandry.

The soil contains a very large proportion of Iron. So complete was its exhaustion, that when I first saw it, all the vegetable matters growing upon the 200 acres of cleared land, (including the briars, sassafrass, and other bushes,) carefully collected, would have been insufficient for the manufacture of one four horse load of Barn-yard manure. The field selected for experiment contains ten acres, embracing the slopes of two hills, and a small valley intersecting it diagonally. It was at that time in Corn, and did not produce one peck of Corn to the acre, although it had been cultivated in the usual manner, and with ordinary care, and the season had been not below the average of seven years.

I procured the services of Dr. David Stewart, so justly distinguished for his scientific attainments, and the accuracy of his Chemical analyses; who rode out with me to the farm, and selected himself the samples of the soil. These samples he analysed most carefully and minutely, and having ascertained the defective elements, prepared a recipe, by which the proposed manure was compounded, by those skilful gentlemen, Messrs, Kettlewell and Davison.

The corn was then cut up at the ground and removed; the field plowed, harrowed, and laid off into 16½ foot lands. The preparation was then scattered regularly over it, costing (all told,) $10 per acre. 1½ bushels of Mediterranean wheat were sown to the acre, about the 1st of November, and harrowed in. No Barn-yard or other manure was used. The yield was more than 29 bushels per acre, although the crop was badly harvested, and the field not subsequently raked.

I send you herewith a note from Dr. Stewart, containing the analysis of the soil, and his reasons for using the particular preparation employed, which I beg you will append to this hasty and necessarily imperfect communication. If the account here given of this remarkably successful experiment, shall induce a few of our enlightened farmers to investigate this subject; or aid in establishing the truth of the great principles, which it was designed to illustrate; if it shall convince any one of the necessity of ascertaining the disease of the soil, before prescribing the remedy, and of the great value of Chemical Science, as applicable to our noble profession, I shall be amply repaid for any trouble bestowed upon the experiment, or upon this communication.

Very respectfully, your ob't. servant,

J. O. WHARTON.

P. S.—It is due to the Public, and to Messrs, Kettlewell and Davison, to say, that the preparation made and sold by them, under the name of "Renovator or Chemical Salts," was also used upon this farm at the same time, and upon similar land with marked effect, and there can be no doubt of its value upon soils like this.

BALTIMORE, 19th Sept., 1850.

TO DR. WHARTON:

DEAR SIR:—I take my pen to comply with your request that I should state to you the reason for using the Bi-Phosphate of Lime on a soil; in the examination of which we were both very much interested about a year since. It affords me much pleasure to comply with this request, as I know that you can appreciate the labor of a careful analysis.

I find in my note book the following comment, made on the occasion of our visit to the farm: "Sample of soil from the farm of the Hon. R. J., yielding about a half a peck of corn per acre."

Sand and bases insoluble,	71.20
Lime,	00.30
Magnesia,	00.40
Manganese,	00.10
Potash,	00.23
Water and organic matter,	10.07

Phosphoric Acid, no appreciable trace,	00.00
Iron and Alumina,	17.70
	100.00

Remarks.—The above contains as much Lime and Magnesia as could be furnished by a dressing of 150 bushels per acre, although no lime has ever been applied to this farm. It also contains as much Potash per acre as could be obtained from about 600 bushels of best green sand, or several times that quantity of the best hickory ashes. But there is no doubt but that the latter would benefit it to some extent, on account of the phosphoric acid which exists in the ashes of wood, and which is deficient in this soil. The same remark may be made of lime, which contains a trace of phosphoric acid, and sometimes one or two per cent. But another remarkable feature in the soil, is the immense quantity of iron it contains, at least six times as much as usually occurs in soils. [Phosphates had been applied to a field in Frederick County, without any effect. The failure was attributed to the presence of a large quantity of iron in the soil, but upon analysis, I find 15 bushels of Phosphate of Lime in each acre, equal to about 2000 lbs. of Guano, sufficiently accounting for the failure of this article, as it is manifest that the soil did not require it.] Now, as this soil contains an abundance of every other material except phosphoric acid, and the large quantity of iron is capable of supplying all the ammonia that the crop may require, the most economical dressing is the purest preparation of phosphoric acid, that we can adapt to agricultural purposes, our object being to avoid the expense of hauling, and pay only for what the land requires. The result *has proved* that bones dissolved in oil of vitriol—in other words, bi-phosphate of lime reduced to powder with slaked ashes—supplies the deficiency in the soil where no phosphoric acid exists, while phosphate of lime, applied to soils containing an appreciable quantity of phosphoric acid, has no effect. I know that some object, that it is difficult, and others say *impossible*, to appreciate a few hundred pounds of phosphate of lime when distributed on an acre; but they seem to forget that it may be very easy to measure the quantity of water that will cause a vessel to overflow, *when full*, although it may be impossible to measure its contents accurately, or sound its depth. That which causes it to overflow (however small the *proportion*) corresponds with the quantity of phosphoric acid which, when added to a soil, renders it productive; any lesser amount, however minute, is the cause of sterility. We assert that we can detect it in every productive soil; and if it cannot be detected, it is fair to infer that it should be applied, if we expect to remove grasses and wheat, which always contain it. On the other hand, should it exist in appreciable quantity, we save the expense of applying $10 per acre in the form of guano or bones, and substitute some other material that is deficient. In order more fully to illustrate this *principle*, I will show you below the qualitative analyses of 3 soils.

The first, a soil from Frederick Co.—limed 75 bushels per acre—yielded the best crop of wheat in the neighborhood.

The second, from Delaware—limed 30 bushels per acre. *Before* liming, it yielded 12 bushels of corn per acre; after liming, 24 bushels.

The third is from the neighborhood of Baltimore, and is being limed.

1000 drops of distilled water, in passing through one pint of the soil, *during* 24 *hours*, dissolved—

	1st.	2d.	3d.
Grains of solid material,	0001.10	0000.60	0000.30
Specific gravity of solution,	0001.00	0000.40	0000.10
Inorganic matter in do.,	0000.90	0000.20	
Lime and Magnesia,	0.50	0.15	0.07
Potash,	0.10	0.03	Trace.
Soda,	0.01	0.02	0.01
Chlorine,	0.01	0.01	Trace.
Sulphuric Acid,	0.02	0.01	Trace.

If one grain of Plaster should exist in a square foot of the soil, it would not only be easily detected, but weighed. This is a mode of analysis that I have devised for determining the immediate wants of a soil—not estimating those substances that may be set free by *subsequent disintegration*. By the percolation of pure cold water, you obtain a view of what the soil would present to the next crop through the rain.

It is demonstrated, then, that Bones, Lime, Plaster and Salt, are only relatively good; that even the best Guano must fail when applied to soils that require some other substance; that the experience of the *most intelligent and best farmers in the State*, with regard to the comparative value of Bones and Lime, is *worthless*, except he can also prove that all farms are composed of the same proportion of Lime, Phosphoric Acid, &c. But the prejudice against these doctrines is so strong that personal abuse is frequently fulminated against those who deny the universal application of any means—or the value to the public of any multitude of experiments *except the composition of the soil upon which the various experiments were tried, is also given.*

I am, very respectfully, your ob't serv't,
DAVID STEWART, M. D.
No. 77 N. Eutaw street.

Guano—We have several articles on the use of this Fertilizer, from the pens of eminent Virginia farmers—we have laid them by for future use; our pages being already engaged.

The price of Peruvian, when our last paper went to press, was $55 per short ton;—it soon after went up to $60, but the supply became exhausted—About the middle of the month there were three arrivals at this port,—one of the vessels having a very short passage,—bringing about 1500 tons. About one third of this amount, we believe, had been engaged in the spring by A. B. Davis, Esq. for the farmers of Montgomery Co. Md. and the remainder had been, months before its arrival, purchased by dealers, and much of it re-sold before its arrival—It is supposed that not more than 400 tons were on sale, at the time of arrival—which has been pretty freely selling at $55 per short ton, and $52½ for inferior quality. There has been a number of arrivals of Patagonian, which is sold at $38 to $40—the supply is large, and some farmers have purchased it, in preference to giving the price for the Peruvian. A vessel from the West Indies brought a cargo which was called African, but the Inspector refused to inspect it as guano, it having few or none of the characteristics thereof.

TAYLOR'S PATENT HAMES—We would particularly call the attention of farmers and others visiting our Cattle Show, to the Hames introduced by Mr. Taylor—they will be exhibited on the ground, and every one can satisfy himself of their great utility.—See advertisement.

BALTIMORE, Sept. 24th, 1850.

To the Editor of the American Farmer:—

SIR:—I observed in the last No. of "The American Farmer," an advertisement under the head of "Notice," which I think must have been inserted without your knowledge of the facts, which are simply these:

The Plough mentioned in the notice was introduced into this State by me, in May, 1848, and has been kept for sale by us up to the present time, at manufacturer's prices. And in regard to the prices in my Catalogue, I will say, that they are all correct except that of the No. 7½ Plough, which everybody will see at once is a typographical error, and (you will permit me to say) it must have occurred in your office, and has escaped my notice until my return last evening. You very well know that the same size Ploughs are often rigged in different ways, some with cutters, draught rods, wheels, &c., and others plain. The No. 7 Plough in our Catalogue is put down with a cutter or draught rod, which makes the price correct.

I have made this statement that you might know the truth, and as for the "Notice," it breathes too much of the spirit of envy and malice to merit reply; but for the benefit of those that might get a wrong impression from the "Notice," I think you should give this the same public insertion that you did the "Notice." By compliance you will oblige

Yours, &c., EZRA WHITMAN, JR.

[The error alluded to, we have no hesitation in saying, we believe to have been a typographical one, in the Catalogue recently printed at the office attached to this paper. Instead of the No. 7½ being $15, it should have read $10. This is apparent from the price of the next smaller size, No. 7, which is $9.50. In our Pictorial Sheet an error also occurred in the price of the Railway Horse Power. It should have read "$75 for the one horse, and $100 for the two horse Power." This is exclusive of the Thresher.—*Ed. Amer. Farmer.*]

Delegates from the Maryland State Society to the N. Y. Agr. Society's Exhibition, held in Sept.—Chas. B. Calvert, Prest.; Jno. Glenn, 1st V. P.; Geo. W. Dobbin, Cor. Sec.; Geo. Patterson, V. P.; H. G. S. Key, V. P.; Horace Capron, V. P.; Ch. Carroll, V. P.; J. C. Walsh, Curator.

Delegation from the N. Y. State Agr. Soc. to the Maryland State Fair, to be held in Oct.—E. B. Prentice, Esq., Prest.; B. P. Johnson, Esq., Cor. Sec.; Geo. Vail, Esq., Ex-Pres.; Hon. Jno. A. King, Ex. Pres; J. McD. M'Intyre, Esq., Rec. Sec.; Luther Tucker, Esq., Treasurer.

☞ Gentlemen in the country having occasion for the services of an Agent or Collector in this city, are referred to Mr. McNeal's advertisement. Mr. McN. is the Treasurer of the State Agr. Society, and will be found faithful and efficient.

REAPING MACHINES.—The success of our friend Hussey has induced many others to get up reaping machines. In the Western States many of them have been used this season—and we have seen notices of several new ones introduced during the late harvest, in Maryland and Virginia. A correspondent in Hanover Co., Va., thus writes us of one:

"I cut part of my wheat crop with a reaper made by H. Baldwin, of Richmond. It is the invention of Mr. M'Keever, of Winchester. It does its work finely, especially in thick and tall grain, leaving not a straw standing. Two medium sized mules carried it with great ease, and such was the speed of its operations that it gave full employment to 12 or 15 binders. I hope the maker will exhibit one at your *fair* this fall."

METEOROLOGICAL TABLE,

From the 20th of August to the 21st of September.

Kept at Schellman Hall, near Sykesville, Carroll County, Md.

Taken at 6 o'clock, a. m., 3 o'clock, noon, and at 6 o'clock.

	Wind.			Temperature			Remarks.
21	E	SE	SE	59	69	67	Cloudy, clear
22	SE	S	S	56	75	70	Clear
23	S	S	S	65	76	73	Fog, shower, clear
24	S	S	SW	68	82	73	Fog, clear, rain
25	NE	NE	W	55	80	75	Rain ¼ in., clear
26	SE	W	NE	65	79	70	Clear
27	NE	NE	NE	60	75	67	Clear
28	NE	NE	NE	56	78	73	Clear
29	NE	E	S	56	76	78	Clear
30	E	SE	SE	55	74	70	Fog, clear
31	NE	SE	E	63	77	73	Fog, clear
1	E	E	SE	73	73	75	Rain 2 in., cloudy, rain 1-4 in.
2	NE	NE	NE	70	73	75	Rain, heavy storm of rain 4 in.
3	NE	NE	S	60	70	70	Clear
4	S	S	SE	50	78	74	Clear
5	S	S	SW	60	75	73	Cloudy, clear, rain ¼ in.
6	E	E	SE	64	80	75	Clear
7	NE	NE	N	63	70	69	Cloudy, rain ¼ in. cloudy
8	N	E	E	64	75	70	Clear
9	NE	SE	SE	54	66	60	Clear
10	E	E	SE	60	74	69	Cloudy, clear,
11	S	W	N	59	76	65	Clear
12	N	NW	NW	56	70	65	Clear
13	NE	SE	SW	46	70	60	Clear
14	SW	SW	SW	50	60	60	Clear
15	SW	S	S	43	67	60	Clear, frost in the valley
16	S	S	S	54	66	60	Clear
17	S	SE	E	54	71	63	Clear
18	E	SE	SE	57	69	65	Clear, cloudy, shower
19	S	S	SW	60	71	71	Clear, cloudy, shower
20	S	SE	N	62	77	60	Clear

REVIEW OF THE TOBACCO & GRAIN MARKETS.

Reported for the American Farmer by J. W & E. Reynolds.

Since our last report prices have been better for the lower counties of Maryland fine Tobacco, but no sort is as good as it was ten days ago. The present prospect for a fair growing crop of Tobacco, in quantity and quality, is decidedly bad.

Grain.—The market for this article ranges in prices same as quoted in our last report, viz: good red Wheat, $1 to 1.07; white, $1.05 to 1.10; family flour wheat, $1.15 to 1.20; inferior qualities of both red and white wheat at 60c to $1. Corn—White, 55 to 58c; yellow, 60 to 62c. Oats, 30 to 37 cents. Rye, 60 to 65c.

DR. HIGGINS' REPORT.—The Report of the State Chemist will be ready in a few days, and forwarded to those who have ordered copies. Copies for sale at 15 cts. each. Published and for sale at the American Farmer office. Oct1-1t

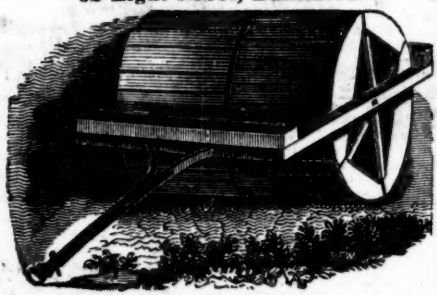
REAL ESTATE AGENCY.

THE undersigned, being located in Baltimore, and having a general acquaintance with the business portion of the city, offers his services as Agent for the Purchase and Sale of Real Estate, viz: Houses and Lots, Farms, &c. In addition, he is prepared to make Collections in all sections of the State. Business entrusted to his care will meet with despatch. JAMES McNEAL, Jr.,
272 East Baltimore st.

References—GEO. M. GILL, Esq.
SAM'L. SANDS, "
JASHUA VANSANT, " Oct1-2t*

JACK FOR SALE.—A dun colored Jack, 6 years old, 11 hands high, is offered for sale. He was formerly owned and raised by Mr. Sterrett, near Baltimore. Price, $150. Apply to the Editor of this paper. If not sold before, he will be at the Cattle Show. Oct1-1t

R. SINCLAIR, JR. & CO.,
Manufacturers and Seedsmen,
62 Light street, Baltimore.



WHEN all of Sinclair & Co.'s most prominent Machinery, Plows, &c. have received dozens of Premiums, it becomes unnecessary to designate. Therefore, they offer the following to the notice of their customers, viz:

Cylindrical Straw Cutters, price $25, 30, 37 and 45 each.

Do. do. with Corn Stalk Lacerator attached, $6, 8 and 10 per sett.

Green's Patent Raw Hyde Repeating Straw and Hay Cutters, $10 to 30.

Common sorts, $5 a 10.

Corn and Cob Crushers, a most valuable machine, $30.

Corn Sheller, *Improved*, single and double, iron spout, $10 a 16.

Virginia Corn Sheller, for hand or horse power, *a prime machine*, $30.

Goldsborough's, Smith's, and Cylinder Corn Shellers, for horse power, $40 a 55.

Corn Mills, made with Cologne and French Burr Stones, *excellent*, $110 a 135.

Fanning Mills.—Important improvements are made in their Fanning Mills, which greatly reduces labor and passes the grain rapidly and in fine order—price, $25, 30 a 35.

Vegetable Cutters, for cutting beets, pumpkins, &c. for feeding stock—price, $20.

Railway Horse Powers, made on the wrought iron plan, with extra finish—price, $75 a 100.

Sweep Horse Powers, 2 sizes, and made on the most simple and durable plan—price, $100 a 135.

Thrashing Machines, adapted to the above powers, of admirable construction—price, $35, 40, 50 a 60.

Straw Carriers or Separators—price, $15, 18 a 20.

Wheat Drills.—These machines have undergone important improvements since last season—price, $75, 80 a 100.

Plows.—Relative to Plows, they have an almost endless variety. Among them will be found patterns equal to any in the United States—prices variable.

Cultivators and Cultivating Plows.

Large Seeding Cultivators, made with right and left tines, $16.

Common and Expanding Cultivators, $4.50 a 6.

2 and 3 Furrow Echelon Plows, for seeding, $5.50 a 6.50.

Harrows—Expanding and Hinge, Stationary, Angular, Square Drags, &c., $5 a 18.

Iron Field Rollers—price, $55.

Sub-soil Plows, for 1 a 3 horses, $5.50 a 15.

Subsoiling Instruments, attachable to the ordinary Plow—a late invention, and valuable, $5.

Also, Corn and Seed Drills; Horse, Hay and Gleaning Rakes, Ox Yokes and Bows; Churns several sorts and latest improved; Grindstones on friction rollers; Agricultural Furnace and Cauldrons; Bush and Root Fullers and Cutters, for clearing; Post Hole Augurs; Spades, Shovels, Mattocks and Picks; Horse Scoops; Apple Pearers; Saussage Cutters and Stuffers; Patent Wrenches. GARDEN AND FIELD TOOLS—A general assortment. ☞Seed Grain of all kinds.

Clover, Timothy, Orchard Grass, Herd Grass, Lucerne, White Clover, Vetches, Kentucky Blue Grass, English Ray Grass; Garden, Flower and Herb Seeds.

Fruit and Ornamental Trees and Plants supplied at the shortest notice, from the Clairmont Nursery and Seed Gardens—warranted true to marks.

☞ Catalogues supplied gratis, which give cuts and description of the above machinery, list of tools and seeds; also, short and correct information relative to time of sowing seed, and quantity sown per acre, directions for planting orchards; also, 120 receipts for managing stock, and other agricultural and domestic information, comprising a full descriptive Catalogue and Planter's Guide. R. SINCLAIR, JR. & CO.,

Oct1 62 Light street.

NEW STAND.

HAVING taken a large and commodious Warehouse fronting on No. 57 CHEAPSIDE AND CALVERT STS., a few doors North of Pratt street, we respectfully invite our friends and the public generally to call and examine our stock of AGRICULTURAL IMPLEMENTS, which, for material and workmanship, are not surpassed by any *in the city*, embracing in part, our new and improved FANNING MILL, which received *the first premium over a number* of other mills at the late Cattle Show held at Easton, Talbot county. This mill comprises all the late improvements for removing Cheat, Cockle, and all varieties of weed seeds and filth from the wheat, whilst at the same time it is so constructed as to prevent any of the good grain from escaping with the offal. It is built in the most substantial and workmanlike manner with so little complication that it may be placed in the hands of the most careless negro without fear of injuring or getting out of order. Price $25 and $30.

PLOUGHS of every variety kept constantly on hand, among which are to be found Moore and Chamberlain's Premium Del. plough; the Empire; Minor and Horton; Eagle; Woodcock; Wiley; Davis; Chenoworth; Wiman's self-sharpening, and a variety of others, which with their castings we are always prepared to furnish on the most reasonable terms.

HORSE POWERS AND THRESHERS of the most modern construction—combining all the late improvements of the day. They are all of our own manufacture; Baltimore built, and put up in the most substantial and durable manner, at the same time presenting a degree of neatness seldom equalled in this most useful of all agricultural labour saving machinery. Price of Horse Power and Thresher complete $125.

All of the above named articles can be had at our new warehouse, No. 57 Calvert and Cheapside streets near Pratt; or at the old stand, No. 97 North Paca street near Franklin.

Sept. 1. HAMBLETON & DIDIER.

CORN SHELLERS—FARMERS, ATTENTION!—We will offer for sale the coming season, a lot of superior Corn Shellers, embracing the latest and the most improved patterns, which we warrant to be a very superior article, ranging in price from $2.50 to $30, for Horse power.

Oct1 HAMBLETON & DIDIER.

DRILLS—DRILLS—DRILLS.

PENNOCK'S WHEAT DRILL—*A Few More Left of the Same Sort.*—Owing to the great demand for this Drill last season, we have made such arrangements with the patentees, that we are now prepared to furnish them at the shortest notice. HAMBLETON & DIDIER,

No. 97 North Paca street, 57 Cheapside and

Oct1 57 Calvert st., near Pratt, Baltimore, Md.

THE DELAWARE PLOUGH, which caused such excitement at the recent Fairs, is to be found in our establishments, various sizes and prices; together with 12 or 15 other varieties—the workmanship of which we warrant unsurpassed in this country. We respectfully invite the agriculturist to visit our establishment and judge for himself.

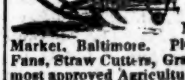
Oct1 HAMBLETON & DIDIER, Baltimore, Md.

FOR SALE—A very useful Patent Right for the States of Maryland and Texas. In the latter country, it would prove a speculation that would pay from 700 to 800 per cent. Address HAMBLETON & DIDIER,

Oct1 Baltimore, Md.

NEW OXFORDSHIRE LONG WOOLED BUCKS FOR SALE.

THE Subscriber has about 40 LONG WOOLED BUCKS, which he will dispose of at any time when called for.—This flock (which has been bred from some of the best ever imported,) is so well known they need no further description than to say, they continue to yield their very heavy fleeces, from 9 to 16 lbs. of washed wool, and when full fatted, will weigh upwards of 300 lbs. alive. This breed of sheep are remarkably healthy and very prolific, and make a very profitable cross with the various breeds of this country, doubling the weight of wool and mutton. The price will be from $50 to $75 for Bucks, and from $25 to $30 for Ewes, according to the quality of the sheep. Gentlemen are invited to call and examine for themselves, or communicate by mail. Direct to Delaware City, Del. jy1-4t CLAYTON B. REYBOLD.



A. G. MOTT,
AGRICULTURAL IMPLEMENT MANUFACTURER,
No. 38 *Ensor street*, near the Belair Market, Baltimore. Plows, Cultivators, Harrows, Wheat Fans, Straw Cutters, Grain Cradles, and all of the best and most approved Agricultural Implements in use.

☞ AGENT for the celebrated N. York Wiley and Empire Plow Castings. mar 1

COTTINGHAM & WILLETT, *Manufacturers of Ploughs, Agricultural Implements, &c.* near Pratt St. Wharf, fronting on Grant and Ellicott streets, next door to Messrs. Dinsmore & Kyle, Baltimore, keep constantly on hand a general assortment, and are prepared to execute all orders for AGRICULTURAL IMPLEMENTS & MACHINERY at the shortest notice, and on as favorable terms as can be had in the city, having recently fitted up a factory in PRATT STREET, *between Eutaw and Paca streets*, for the purpose, where they are prepared to manufacture every article in their line and can assure their friends and the public, that their work will be executed with faithfulness, and the materials of the best quality, and they flatter themselves that all articles sold by them, will favorably compare with any to be obtained elsewhere. The farmers and planters of Maryland and the neighboring States, may find it to their interest to call and examine their stock, and judge for themselves. ☞Among the machines they keep on hand, will be found *COTTINGHAM & WILLETT'S* Improved Fitz's HORSE POWER, with wrought shafts; and various other lever, stationary and Railway Powers, and Threshers of various sizes and patterns—PLOUGHS of every variety—Fanning Mills of the most approved patterns—Harrows, Cultivators, Drills, Horse Rakes, Straw Cutters, Corn Shellers, Crushers, &c. &c.—Castings of every description.

☞ Repairing done with expedition and fidelity. Setl

HORSE POWERS, THRESHERS, SHELLERS of a variety of patterns, CORN & COB CRUSHERS, Portable GRIST MILLS and MILL WORK, all warranted, and at the lowest prices, manufactured and for sale by

MURRAY & CLARK,

Millwrights and Machinists, No. 21 York street, near Light street, Baltimore.

We refer to former advertisements in the "*Farmer*" for the names of farmers, planters and others, who have purchased our implements and machinery, and who have borne testimony as to their value. Aug. 1. tf.

GUANO!—GUANO!!

NOTICE TO FARMERS AND PLANTERS.

THE undersigned have on hand a large supply of PERUVIAN and PATAGONIAN GUANO: which they offer for sale in quantities to suit, and at *low prices*.

The "PERUVIAN," or *No.* 1 *Guano*, is all of *direct importation, this year*,—and its quality is not surpassed by any in the Country!!!

Our "PATAGONIAN," or *No.* 2 *Guano*, is *superior* to any other importation in the market,—and for clayey lands, white oak or other soils, requiring the aid of Phosphates, is equal in value to some specimens of the Peruvian.—*See Dr. Higgins, State Chemist's Report, pages* 43, 72 and 73.

The following Certificate, furnished by an eminent Chemist of Baltimore, of our Patagonian Guano, shows at once its valuable properties.

To P. Malcom & Co., Baltimore:—I consider the specimen of Patagonian Guano, submitted by you for examination, to be one of the best I have ever seen, and compares very well with some specimens of Peruvian. D. STUART, M. D.

77 Eutaw Street, Baltimore.

☞ This description can be obtained for nearly one-third less than the price of Peruvian!!!

☞ Our Guano is put up in barrels, and in strong substantial bags, weighing from 150 to 200 lbs. and we warrant it to be pure and unadulterated; each bag having been weighed and inspected by the "State Inspector," whose stamp is upon every bag. A liberal deduction made to clubs or parties purchasing large quantities. Farmers will do well to call upon us before purchasing.

☞ We have also constantly on hand, Bone Dust and ground Plaster, in barrels. P. MALCOM & CO.

Grain and Flour Warehouse, No. 1 Wood Street,
jy 1 4t Bowly's Wharf, South of Pratt Street.

DUVALL & IGLEHART,
GROCERS AND COMMISSION MERCHANTS,
No. 78 LIGHT STREET WHARF,

Invite the attention of their friends, and the public generally, to their large and general assortment of GROCERIES, embracing every *article* in that line of business, and which they will sell upon pleasing and liberal terms, and at the lowest prices. Any one in want of any article in their line will find it to their advantage to give them a call. *They will also pay particular attention to the sale of all kinds of produce.*

J. W. & E. REYNOLDS,
FARMERS AND PLANTERS' AGENTS,
Light street Wharf, Baltimore,

KEEP constantly on hand a carefully selected stock of FAMILY GROCERIES, in order to furnish their customers at the lowest rates and on the best terms. They also furnish (on a credit of 9 months) Guano, Lime, Ashes and Salt, for agricultural purposes, at the lowest prices. Septl-tf

A really Valuable Article for Farmers' Wives and Daughters.
GWINN'S WASHING SOLUTION,

FOR washing clothes of all kinds, cleaning paint, wooden ware, &c. Farmers visiting the city at our approaching Fair, could not confer a greater favor on their wives or daughters than by taking home a supply of this really time and labor saving article. It may be had at Cockey & Gambrill's, Calvert St. near Pratt, east side. It will cost but little to buy it: if you are not pleased with it after strictly following directions, don't buy any more. I am a farmer myself, and can assure my friends that there is no deception about this article. Price, 50 cts. per gallon, 12½ cts. per bottle.

JOHN GAMBRILL, Manufacturer,
Harford turnpike, 5 miles from Baltimore.

All communications addressed care of
Octl * COCKEY & GAMBRILL, Calvert st., Balto.

BONE MILLS.

FOR SALE—One BONE MILL for horse power, complete, capable of grinding from 150 to 200 bushels per day. Also, a Steam Power Mill, capable of grinding from 800 to 1200 bushels per day; engine of 16 horse power, with 2 boilers of 25 horse power, all complete—will be sold very *cheap*. Apply by letter, or otherwise. to

ALEXANDER HORNBY,
Octl-1t* 26th st., 9th avenue, New York.

GUANO.

PERUVIAN and PATAGONIA GUANO, late importation, and superior quality—for sale in lots to suit purchasers, by WM. ROBINSON,

No. 4 Hollingsworth street, near Pratt St. wharf.
Aug. 1. tf. Baltimore

GUANO.

PERUVIAN, of the latest importations, per Kirkland & Jno. G. Coster. Also, Patagonian, No. 2 and 3, warranted equal to any in this city. Also, Ground Plaster in barrels. For sale by S. FENBY & BRO.
aul Corner Gay and Pratt street.

GROUND PLASTER.

THE subscriber respectfully informs the Farmers and Planters that he is now receiving a large and selected lot of an extra quality of Lump Gypsum, direct from particular mines, (the purity of which he has had tested by various analyses) from which he is manufacturing a superior article of Ground Plaster, warranted pure, and each barrel of full weight and in good shipping order—marked with his own name. For sale on the most favorable terms.

WM. A. DUNNINGTON,
Steam Plaster Mill, G. Hughes st., on the Basin.

Orders received at CAPT. ASA NEEDHAM'S STORE, No. 104 Light street wharf. Septl tf

DUTCHESS CO. PIGS.—Several pairs of very superior Pigs, of this breed, of the same stock which sold at the last Cattle Show at Baltimore for $50 per pair, will be offered for sale at the coming Fair, in Oct. J. WILKINSON,
Septl 2t Mt. Airy Agr. Institute, Germantown, Pa.

LIME.

THE subscribers are prepared to furnish Building and Agricultural Lime at the depot on the Back Basin, corner of Eden and Lancaster-sts., which they will warrant to give satisfaction, it being burnt from pure Alum Lime Stone, equal to any found in the United States. Orders may be left with WILLIAM ROBINSON, No. 15 Hollingsworth-street, near Pratt.

tf **PELL & ROBINSON, City Block.**

CHICKERING'S PIANOS.

THE Subscriber is *Sole Agent in Baltimore*, for the sale of CHICKERING'S CELEBRATED IRON FRAMED GRAND AND SQUARE PIANO FORTES, and is constantly receiving supplies from the factory in Boston, which are sold at the same prices as charged by Mr. Chickering.

Chickering's Pianos are unquestionably the best Instruments manufactured in the United States. In regard to superior quality of tone, touch, durability, and all the essential qualities of a Piano, they are admitted by the most eminent Pianists to be equal to Erard's, of Paris, or Broadwood's, of London.—Although there are several factories in Boston and New York of high reputation, Mr. Chickering undoubtedly stands at the head, possing eminent talent, skill, untiring industry and experience of some 35 years as a manufacturer of pianos, with abundant means to enable him to carry out his plans in producing the very best instruments.

Orders from the country, untrusted to the subscriber, either for Pianos, Music, or any article in his line of business, will be faithfully executed. F. D. BENTEEN,
jy 1 6t* 101 Baltimore street.

PENNOCK'S PATENT
SEED AND GRAIN PLANTER.

For Planting Wheat, Rye, Barley, Indian Corn, Oats, Beans, Peas, Ruta Bagas, Turnips, &c.

This Machine operates equally well on all kinds of land, and is not injured by coming in contact with rocks, roots, &c. It will plant point rows, and all irregular shaped fields, without sowing any part twice over. With a saving of from 10 to 15 per cent. in labor; it will, with ease for two horses, plant from 10 to 12 acres per day of Wheat, Oats, Barley, and other small grains: and with one man and horse, it will readily plant from 15 to 20 acres per day of Indian Corn, Beans, Peas, Ruta Baga, &c.

It will save from 2 to 3 pecks of seed per acre, and yield from 15 to 20 per cent. more than the broad cast seeding, by distributing the grain uniformly at any desirable depth, and leaving a ridge of earth between the rows. The roots of the young plants are protected during the winter by the action of the frost and rain mouldering the earth upon them, instead of being thrown out and exposed as in broadcast. On this account the stalk is stronger and less subject to mildew, and is not so liable to injury by the fly.

The farmer is frequently prevented by rain from harrowing in his grain after it is sown, which harrowing is needless in seeding with this machine, as it completes the work at once.

RECOMMENDATIONS.

"Previous to harvest we had 5 acres carefully measured with chain and compass by W. Pennington the Surveyor of the neighborhood, assisted by John Jones. The Surveyor was present when the wheat was cradled, and saw that each acre had its due share. It was put away in separate mows, and threshed separately, and the grain all measured.

Nos. 1 and 2.—Two acres of broadcast, surveyed together—Two bushels of seed to the acre—Seventy-five shocks—55 bushels of wheat, or 27½ bushels to the acre.

No. 3—One acre drilled, adjoining the above, the land, if any different, rather inferior; treated exactly alike—one bushel and one peck of seed to the acre—42 shocks, 35 bushels.

No. 4.—One acre drilled a little distant from No. 3, one bushel and one peck of seed, 42 shocks, 35 bushels.

No. 5.—One acre drilled a little distant from No. 4, one bushel and one peck of seed, 50 shocks. 40 bushels to the acre.

Here we see by the use of the drill alone, (the soil being in the same, or perhaps an inferior condition,) the crop was increased 7½ bushels per acre, and adding the amount saved, (3 pecks) make 8 bushels and 1 peck to the acre; and further, that the amount of straw to the drilled acre, with a smaller quantity of seed sown, increased 12 per cent., and the amount of grain on the same acre was increased more than 27 per cent.

* * * * * * * * The Drill used was invented by M. PENNOCK & SONS, of Kennet Square, Chester County, Pennsylvania. Our own convictions have been sufficiently strong upon the above experimnnt as to cause us to purchase a Drill, or as it should be called, a wheat and corn planter, for it plants either equally well, for our own use, with which we have put in this fall the entire field of wheat, containing about 40 acres.

Respectfully,
CHARLES NOBLE.
Philadelphia, 10th mo., 1844.

Lancaster Co., Pa., September 1846.

We, the undersigned, do hereby certify that we have used "Pennock's Patent Seed and Grain Planter," and take pleasure in stating, that we believe it to be the best machine for the purpose intended, that is now in operation; and that we can with confidence recommend it to the farming community as one of the most economical and perfect agricultural implements with which we are acquainted.

Henry Musselman,	Martin Herr, of Pequa.
Abraham Weaver,	John Weaver,
John Musselman,	Joseph Weaver,
David Miller,	George Morgan,
Daniel Krug,	John Greider,
John Kachel,	Benjamin Greider.

This may certify that I have had in use during the spring of the present year, one of S. & M. Pennock's Patent Seed and Grain Planters, and sowed oats and planted corn with it, to my entire satisfaction. I believe it to be one of the most perfect and useful farming implements ever invented, and shall in future use it exclusively in my operations of sowing and planting grain. The experience I have had convinces me that the machine is a great saver of time, seed and labor.

H. W. SNYDER,
Selin's Grove, Union Co., Pa., June 25, 1847.

This is to certify that we have used "Pennock's Seed and Grain Planter," and do state, that the wheat sown by it, on an inferior quality of land, is much better than that sown broadcast. Besides the great increase of yield and the saving of a half a bushel of seed per acre, we are convinced that the drilling system possesses many important advantages over the old broadcast method of seeding.

Abraham S. Mylin,	Christopher Herr,
John Sener,	Rudolph Herr,
Martin Herr,	John Heller.

Lancaster County, September, 1846.

This is to certify, that I have been using "Pennock's Patent Seed and Grain Planter," for three years, and can recommend it to wheat growers as the best article of the kind ever introduced. I have had other drills in use but could not operate with them to my satisfaction. I do certify that the yield of grain sown with this drill is 50 per cent over the usual broadcast. And I would not part with my drill for five times the amount it cost if I could not get another.

B. GROFF.

In the year 1844 I purchased one of Smith's Drills for the sum of Twenty-five Dollars, which upon trial I found would not answer the purpose; and being fully convinced of the advantages of drilling over the broadcast system, I resolved to try another that professed to be an improvement, at the cost of $50. This one proved but little better than the first. I then bought one of "Pennock's Patent Seed and Grain Planters," from Kennet Square, Chester County, Pa., for $100, which I have used, and believe it to be the best machine that has been introduced. It plants all kinds of grain at any depth required, and operates equally well on *rough and hilly* as on *level land*. I would not part with it for $200 if I could not get another.

ELIAS HERR.
Lancaster Co. Pa. September, 1847.

Dayton, Montgomery Co., Ohio.
Nov. 27, 1847.

S. & M. PENNOCK,

Gentlemen:—

Having the last year tested the merits of your Seed and Grain Planter, I certify that in addition to the saving of one peck of seed per acre, the yield was from three to eight bushels per acre more than that sown broadcast.

I also find that, by planting with your Machine the grain is much better protected against storms, and not so liable to be thrown out and killed by the winter. The experiment was so entirely satisfactory, that this season I have purchased one of your Machines, and with it put in my entire crop of wheat.

I am yours obediently, CYRUS HULL, Jr.

This is to certify that we have had and used on our farms for two years, "Pennock's Patent Seed and Grain Planter," and feel confident that it is one of the best Machines ever introduced.—The great advantages it posseses over other Machines are, that it is adapted to all kinds of land, and will sow fields of any irregular shape without seeding any part twice over; also all kinds of grain, at any depth wished. We also certify that the amount of grain raised by drilling over broadcast sowing, fully paid for our machines the first year, without counting the saving of the seed, which was a half bushel to the acre.

David Groff, John Shenk, Tobias Herr.
Lancaster Co., Pa., September, 1847.

To S. & M. PENNOCK:

This certifies that I had several acres of wheat put in with your Drill, in September of 1846.—Previous to harvesting it, I had one acre carefully measured with chain and compass by Jacob Diehl, and several others of the neighborhood. Several persons were present at the time the wheat was cradled, and saw that each had its due share. I had it carefully put in the barn and threshed separately, and the result was five and one eighth bushels in favor of Drilling.

Yours, truly, PETER DIEHL.
New Oxford, Adams Co., Pa., Nov. 30, 1847.
Unionville, Chester Co., Pa. Feb. 8th. 1848.

I do hereby certify that I have used one of Pennock's Patent Drills for five years, and have put in from fifty to seventy acres of wheat every year since, and have never failed having a good crop. I think I can safely say, that I have realized from 30 to 50 per cent., or that it has averaged me from $300 to $400, and even $500 a year, over the usual broadcast seeding. My land being low, I have lost greatly by the winter throwing the roots entirely out, which is wholly obviated by

drilling. I would not take $500 for my Drill if I could not get another of the kind. JOHN HUEY.

East Fallowfield, Chester Co., Pa.

This is to certify that we have used Pennock's Patent Seed and Grain Planter, and consider it superior to all others on account of its simplicity and adaptation to all kinds of land, both even and hilly.

It sows equally well, all kinds of seed, at any depth wished. Many of these machines have paid over 100 per cent the first year.

Being convinced of the advantages of this machine over all others, we have purchased the patent right for nine counties in eastern Pennsylvania. GEORGE W. LEE & CO.

Shirley, Va. November 5th, 1849.

To Messrs. S. & M. PENNOCK:

I think your Drill Machine is the most complete labor-saving machine I ever saw; it does the work of four harrows, twelve horses, and five good men, (one of them a *good Seedsman,*) with only three horses and two smart boys. I am determined to have two Drills by next season if possible.

Most Respectfully, Yours, &c., HILL CARTER.

Mr. Carter informs us since harvesting his wheat crop this season, the *only objection* he has to the result of his experiments with our seed planter, is, that it made him a *heavier harvest*; "his drilled wheat was much larger," and he expressly orders a machine timely for this fall's seeding, and says he would not be without one on any consideration.

Reedsville, Mifflin Co. Pa. July 21, 1848.

Messrs. S. & M. PENNOCK;—

Gentlemen:—I have this day threshed and measured the wheat grown on one acre of land, one half of which was drilled in with one of your machines; the other half was sown broadcast and harrowed in in the usual manner. The result is as follows:—The half acre drilled, one and a fourth bushels of seed per acre, 13 shocks measured 12 bushels and 2 quarts. The half acre broadcast, one and three fourth bushels seed per acre, 8 shocks measured 7 bushels, 18 quarts. The quality of ground was exactly the same, and treated alike in every particular, previous to seeding. Difference on the half acre in favour of the drill, 4½ bushels. Add one fourth bushel saved in seed, makes 4 and three fourths bush. more than on the broadcast seeding.

Yours truly. &c. ABNER THOMPSON.

We the undersigned, were present, saw the grain measured, cut the grain, and assisted in threshing the same, and do hereby testify to the correctness of Mr. Thompson's statements.

James Reed, William Steely,
D. C. Miller. Alexander Reed,
H. G. Morris, George Ashby,

The above machines are manufactured and kept constantly on hand at Waterford, Loudon County, and Millcreek, Berkley County, Virginia, where orders will be thankfully received, and also by

S. & M. PENNOCK & CO.

Aug. 1. 3t. *Kennet Square, Chester Co. Pa.*

C. H. DRURY, *Hollingsworth street corner of Pratt—Head of the Basin* —having completed his establishment with Foundry connected, for the making his own Castings, is prepared to furnish all varieties of *AGRICULTURAL IMPLEMENTS* and *CASTINGS*, made to pattern of the best material.

The following is a list of PLOWS kept constantly on hand: Davis, of the different numbers, for wrought and cast shears, S. & M., Chenoweth, Wiley, 2 and 3 furrow, No. 0, Hill side, No. 1 and 3 Connecticut—Beach Improved or Posey Plow, with common Davis cast shear—Self-sharpener or wrought shear—Corn Cultivators, plain and expanding—Tobacco do.—Wheat Fans—Corn sheilers with double hopper—Old Vertical and Virginia sheller—Harrows—superior Pennsylvania made Grain Cradles—Revolving Horse Rakes—Cylindrical straw Cutters, &c. &c. Horse Power *GRIST MILLS*, a very useful and saving article, and coming into general use. *HORSE POWER AND THRESHING MACHINES*, of these I need not say any thing, as wherever they have been in use any time, they are preferred to all others.

C. H. D. will this year make a smaller size Power & Thresher, (price of Power, $100, Thresher, $50, Band, $10, or when taken together, complete, $150 cash.) Persons in want of Implements made of the best material, and put together in the strongest and best manner to answer the purpose for which they are intended, are invited to call on the subscriber. jel

AGENCY FOR THE PURCHASE AND SALE OF IMPROVED STOCK.—Stock Cattle of the different breeds, Sheep, Swine, Poultry, &c. purchased to order and carefully shipped to any part of the United States—for which a reasonable commission will be charged.

All letters, post paid, will be promptly attended to. Address AARON CLEMENT,

Sept1 Cedar st., above 9th, Philadelphia.

E. WHITMAN'S
Agricultural Warehouse

AND

SEED STORE,
No. 55 Light street, Baltimore,

WILL contain, this season, the largest stock of Improved AGRICULTURAL IMPLEMENTS ever offered for sale in this country, amongst which will be found

100 Whitman's Superior Wrought Iron Railway HORSE POWERS, which received the *first premium* at the last Fair of the *Maryland Agricultural Society.*

100 LEVER or SWEEP POWERS, among which will be found all the latest improvements; also, the Eddy or Taplin Power, which is portable, simple and durable, consisting of one wheel only.

200 Whitman's THRESHERS, which received the *first premium*, in Baltimore, in 1849. The cylinder of this Thresher, being all in one piece of iron, will last **100 YEARS**, in constant use. A great improvement has recently been made in the teeth or spikes, which makes it *the most perfect machine* now in use.

100 other THRESHERS, comprising various kinds and improvements.

7,000 PLOUGHS, consisting of every kind now in use.

500 Premium Cultivators, $4, $4½, $5 and $6.

500 " Grain Cradles, of approved kinds.

50 " Corn Planters; price, $20.

100 " Seed Sowers; price, 10.

Grant's celebrated Fan Mills; prices from $25 to $40.

Bamborough's " " " $28, 30, $32 and $34.

Strong's, Rice's, Clinton, Boston and other Fans.

Improved Harrows, Straw Cutters, Corn Sheilers, Corn and Cob Crushers, Fodder Cutters and Grinders, Ox Yokes, Dirt Scrapers, Churns, Scythes and Sneaths, Wheelbarrows, Root Pullers, Shovels, Spades, Hoes, Forks, Buckets, &c. &c.

Also, a general assortment of

FIELD AND GARDEN SEEDS,

Which are warranted to be fresh and genuine.

ap1 E. WHITMAN, JR.

PEIRSON'S PATENT SEED DRILL.

THIS DRILL is adapted to the various kinds of land, and is not liable to be injured by striking stones or roots. It will sow point rows, and fields of irregular shape, to advantage. It can be constructed to operate on stony land, and is so simple in construction that a boy of twelve years of age can manage it.

REFERENCES.—*Maryland*—Maj. J. H. Milburn, St. Mary's Co.; R. N. Milburn, Baltimore city; Rich'd. B. Carmichael, Queen Ann Co.; William Carmichael, do.; Doctor De Coursey, do; Colonel Tilghman, do.; Gen. T. Tilghman, Talbot County; Thomas Hopkins, do.; Abner Hall, Easton, do.

Delaware—Dr. J. W. Thompson, Wilmington; Jas. Canby, do.; Ddward Tatnall, do.; John H. Price, do.; Hon. John Wales, do.; Hon. J. M. Clayton, New Castle; John C. Clark, do.; Bryan Jackson, do.

CUMBERLAND NURSERIES,
NEAR CARLISLE, CUMBERLAND CO., PA.

The proprietor of the above establishment takes this opportunity to call the attention of the public to his extensive stock of Nursery Articles offered this fall, comprising, in part, every desirable variety that is known to be well adapted to our soil and climate, *both foreign and native*, of the Apple, Peach, Pear, Plum, Cherry, Apricot, Nectarine, Quince, Strawberry, Raspberry, Gooseberry, Currant, best native Grapes, largest and best Rhubarbs, &c., together with Shade, Evergreen and Ornamental Trees, Shrubs, Plants, Vines and Roots. In short, every article belonging to the business. All of which will be charged for according to size and quality of the plant, but in all cases will be on as reasonable terms as an article of equal value could be procured for elsewhere.

N. B. All orders directed (*post paid*) to the proprietor, as above, or to HAMBLETON & DIDIER, No. 97 North Paca street, or 57 Calvert street and 57 Cheapside, near Pratt street, Baltimore, will be punctually attended to—the trees carefully packed and delivered in Baltimore, (for which a very reasonable charge will be made); but it should be understood that after being carefully delivered in Baltimore and forwarded to wherever ordered, they will be at the risk of the purchaser.

Catalogues given gratis to post paid applicants.

DAVID MILLER, JR.

P. S. All orders left with Messrs. HAMBLETON & DIDIER will be punctually attended to. The above gentlemen are now prepared to fill all orders for Agricultural Implements at the shortest notice. DAVID MILLER, JR.,

Oct1-1t Cumberland Nurseries, Carlisle, Pa.

BITUMINOUS COAL, IN POWDER,—AND POUDRETTE,

FOR MANURE—For sale at $1.75 per bbl., by

WILLIAM CHILD,

Oct1-2t* No. 78 South street, Bowly's wharf.

TAYLOR'S PATENT HAMES,
Patented Jan. 15, 1850.

THE advantages of this improvement over the old plan of fastening the hames together at the bottom, are numerous. It formerly was the most difficult part of harnessing a horse, but now, by the addition of this improvement, they can be fastened or unfastened instantly by merely moving a lever confined by a spring against any action of the horse, yet a child can remove it.

The subscriber has met with universal success wherever he has introduced the improvement, and it is conceded by all who have examined and tried the Patent Attachment, that it must soon come into general use. The above Hames and Attachment are for sale wholesale and retail by the patentee,

MORTIMER TAYLOR, No. 38 Ensor st., Balto., Md.

P. S. All communications addressed as above will meet with promptness.

BROOKVILLE, Montgomery Co., Md., 9th mo. 20.

I am using the Patent Hames, and feel no hesitation in saying they are the best I ever used, independent of the patent fixture, and that every farmer should have them, if he would consult his interest. They are a great convenience in gearing, early in the morning, before there is light enough to see the hame strings, and when sprung in place, there is no danger of the horse suffering, as they often do from careless hands neglecting to tie right. Once right, they are always so, and no doubt they will come in general use. JOHN STABLER.

I have used Mr. Mortimer Taylor's Patent Hames on my team, and they have given the most unbounded satisfaction. In fact, my wagoner thinks them beyond all praise.

THOMAS LUCAS, Dover P. O., Baltimore Co., Md.

I have used Mr. Mortimer Taylor's Patent Hames on my teams on the Baltimore and Susquehanna R. Road, and they have given every satisfaction; in fact, it is to the interest of all who have horses in use, to use Taylor's Patent Hames.

EDWARD NORWOOD, Baltimore, Md.

BALTIMORE, March 27, 1850.

I have used Mr. Taylor's Patent Hames on the Baltimore and Ohio Railroad, and they have given universal satisfaction, and I have adopted them. J. B. MILLER,

Supervisor of Stock, B. & O. R. R. Co.

BALTIMORE, Sept. 21, 1850.

I have in use Mr. Mortimer Taylor's Patent Hames, and find them to give entire satisfaction;

JOHN G. MEDINGER, No. 160 Forest st.

I have in use Mr. M. Taylor's Patent Hames. They have given entire satisfaction, and I would not be without them for double their cost. JOHN BAKER, Baltimore Co., Md.

I have in use Mr. Mortimer Taylor's Patent Hames, and find them to give entire satisfaction. EDW. J. CHURCH,

Oct1-1t* Lumber Merchant, Monument st., Balto., Md.

Importation of Fruit and Ornamental TREES, Gooseberry, Currant & Raspberry Bushes, to arrive in October.

1500 PEAR TREES, standard and dwarf, embracing all the best varieties known in this country and in Europe. We name, in part, Bartlett Summer, Franc Real, Flemish Beauty, Andrews, Beurre Bosc, Virgalieu, Maria Louise, Napoleon, Beurre de Aremberg, Vicar of Winkfield, Beurre Deal, Columbia, Passe Colmar, Glou Morceau, Knight's Monarch, Easter Beurre, Duchess de Angoulome, Chaumantel, Van Mons, Leon Le Clere, with many other varieties, all deserving the fruit grower's attention.

1000 PLUM TREES, standard and dwarf, embracing the following choice varieties: Cos's Golden Drop, Green Gage, Holling's Superb, Imperial Gage, Jefferson, Lamarc's Favorite, Blue Imperative, Columbia, White Magnum Bonum, Winter Damason, Late Red, Damas Dull, Washington, Ideknutt, Imperative, &c.

600 CHERRY TREES, standard and dwarf, Black Tartarian, Late, Early Purple, Knight's Early Black, Knight's Bigareau, Elton, Transcendant, Black-heart, Belle de Chussey, Late Duke, Kentish. Every tree will be warranted true to its name.

4000 GOOSEBERRY BUSHES, including the finest English and Scotch varieties.

6000 Falstoff and Franconia RASPBERRY PLANTS. The Fulstoff is a new English variety of the highest reputation. The fruit is of the richest flavor, and is borne for a long time in succession. It ripens about the same time as the Red Antwerp, and is the finest red Raspberry known. The Franconio is hardy, very large and productive; fruit firm, and bears carriage to market well.

500 VICTORIA CURRANT, a new English variety. The bunches are long, berries very large, bright red, and hang long on the bush in perfection. Also,

500 MOSS ROSE PLANTS, including all the most approved varieties, and a number of the finest Ornamental Trees, suitable for pleasure grounds.

Gentlemen desirous of purchasing, will please apply to

JAMES CAIRNS,

Oct1 at John Boyd & Son's, 14 South Gay street.

A NEW HARDY CARD CLIMBER,

THE NEW AND BEAUTIFUL CLIMBER, Calestegia pubescens, recently introduced from China by Mr. Fortune, proves perfectly hardy in New England, having stood in the grounds here the past winter without the least protection. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object, from the middle of June till cold weather, during which time it is covered with a profusion of large double flowers, of a delicate rose color. It is very ornamental planted in patches like the verbenas; makes an admirable screen, and is very effective in young plantations, belts or shrubberies, trailing prettily on the surface, and running up the lower branches of trees in a very picturesque manner. It is, therefore, particularly suited for ornamenting Cemetries and public gardens. Its culture is very simple, and it thrives in any good garden soil. When required in considerable quantities, it is best to start them under glass in February or March, but the tubers may also be planted in the open ground in May. The subscriber will send to order by mail or express, October 20th, tubers sufficient for 100 plants at $5.00; for 50 plants, $3.00; with directions for propagation and culture.

Strong plants in pots in April, $1 per pair.

B. M. WATSON.

Old Colony Nurseries, Plymouth, Mass. Sept. 1, 1850.

Oct. 1.

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